

**P E N N S Y L V A N I A**

# **Occupational Outlook Handbook**

**2006  
Edition**

**Health and Human Services**

**Volume 1 of 6**

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# How to Use the Pennsylvania Occupational Outlook Handbook

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The *Pennsylvania Occupational Outlook Handbook* is best used as a reference; it is not meant to be read in its entirety. Instead, look in the Table of Contents for specific occupations that interest you. For any occupation that sounds interesting, use the *Handbook* to learn about the type of work, education and training requirements, advancement possibilities, earnings, job outlook, and related occupations. Each occupational description follows a standard format, making it easy for you to compare occupations.

This document provides an overview of how the occupational articles are organized in the *Handbook*. It highlights information presented in each section and offers tips on how to interpret the information.

Unless otherwise noted, the source of employment and earnings data presented in the *Handbook* is the Pennsylvania Department of Labor & Industry, Center for Workforce Information & Analysis. Nearly all *Handbook* articles cite employment and earnings data from the Occupational Employment Statistics (OES) survey. Some articles include data from outside sources. OES data may be used to compare earnings among occupations; however, outside data may not be used in this manner because characteristics of these data vary widely.

The following are descriptions of the subheadings that appear under each of the occupations included in this handbook:

## Significant Points

This section highlights key occupational characteristics.

## Nature of the Work

This section describes what types of activities are involved in a particular occupation. Individual job duties may vary by industry or employer. For instance, workers in larger firms tend to be more specialized, whereas those in smaller firms often have a wider variety of duties. Most occupations have several levels of skills and responsibilities through which workers may progress. Beginners may start as trainees performing routine tasks under close supervision. Experienced workers usually undertake more difficult tasks and are expected to perform with less supervision.

## Working Conditions

It is important to research the working conditions of an occupation. This section identifies the typical hours worked, the workplace environment, physical activities and susceptibility to injury, special equipment, and the extent of travel required. In many occupations, people work regular business hours - 40 hours a week, Monday through Friday - but in many others, they do not. For example, waiters and waitresses often work evenings and weekends.

## Employment

This section reports the number of jobs the occupation provided in 2004 (nationwide and Pennsylvania) and the key industries where these jobs are found. When significant, the geographic distribution of jobs and the proportion of part-time (less than 35 hours a week) and self-employed workers in the occupation are mentioned.

## Job Outlook

The long-term job outlook is a factor to consider when deciding on an occupation. This section shows anticipated growth or decline for an occupation in Pennsylvania by comparing actual 2004 employment figures with projected employment for 2014. In addition, this section describes the factors that will result in growth or decline in the number of jobs. In some cases, the *Handbook* mentions that an occupation is likely to provide numerous job openings or relatively few openings. Occupations that are large and have high turnover, such as cashiers and retail sales positions, generally provide the most job openings. Susceptibility to layoffs due to imports, slowdowns

in economic activity, technological advancements, or budget cuts are also addressed in this section. For example, employment of construction craft workers is sensitive to slowdowns in construction activity, while employment of government workers is sensitive to budget cuts.

## Earnings

This section discusses typical earnings and how workers are compensated—annual salaries, hourly wages, commissions, piece rates, tips, or bonuses. Within every occupation, earnings vary by experience, responsibility, performance, tenure, and geographic area. Earnings data are from the Occupational Employment Statistics annual survey of Pennsylvania employers. Average hourly earnings for entry-level and experienced-level workers are now available as well.

Benefits account for a significant portion of total compensation costs to employers. Benefits such as paid vacation, health insurance, and sick leave may not be mentioned because they are so widespread. Though not as common as traditional benefits, employers may offer flexible hours and profit sharing plans to attract and retain highly qualified workers. Less common benefits also include childcare, tuition for dependents, housing assistance, summers off, and free or discounted merchandise or services.

## Training, Other Qualifications and Advancement

Knowing what kinds of training or education are required for a job is an important part of career planning. This section describes the most significant sources of training, including the training preferred by employers, the typical length of training, and advancement possibilities. Job skills are sometimes acquired through high school, informal on-the-job training, formal training (including apprenticeships), the Armed Forces, home study, hobbies, or previous work experience. For example, sales experience is particularly important for many sales jobs, which may not require any education beyond high school. Many professional and technical jobs, on the other hand, require formal post-secondary education—vocational or technical training, or college, postgraduate, or professional education.

Also discussed here are the qualifications usually expected of job applicants, as well as opportunities for advancement or promotion. Some occupations require certification or licensing to enter the field, to advance, or to practice independently. Certification or licensing generally involves completing courses and passing examinations. Increasingly, many occupations have continuing education or skill improvement requirements to keep up with the changing economy or to improve advancement opportunities.

## Related Occupations

Occupations involving similar duties, skills, interests, education, and training are listed.

## Sources of Additional Information

No single publication can completely describe all aspects of an occupation. Thus, the *Handbook* lists mailing addresses for associations, government agencies, unions, and other organizations that can provide occupational information. In some cases, toll free phone numbers and Internet addresses also are listed. Links to non-BLS Internet sites are provided for your convenience and do not constitute an endorsement.

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(717) 787-6466 or toll-free at 1-877-493-3282.

## Health and Human Services Introduction

Health and human services is one of the largest and fastest growing employment groups in Pennsylvania. Due to the health care needs of the growing elderly population, employment prospects will be bright for those entering this field as the market is expected to grow in the coming years.

Technological advancements have created new opportunities in health and human services. These breakthroughs are revolutionizing the medical field by increasing specialization of practitioners and technologists. The increased specialization in today's health care industry has also created a demand for new health care professionals. Health organizations are in need of these professionals due to changing legal requirements, increased regulations in the health insurance industry, and increased competition.

Health and human services provides many job opportunities for people without specialized training beyond high school. For example, jobs such as medical assistants and home health aides are expected to increase significantly in the coming years. Also, registered nurses, who in some cases require only two to three years of postsecondary education, experience many annual job openings.

The largest number of health and human services positions are found in hospitals and nursing/personal care facilities. Other segments in the industry include home health care services, offices of physicians and dentists, and medical/dental laboratories. The majority of employment is found in large cities with substantial hospital employment.

This publication provides an in-depth look at 45 occupations in health and human services. Each occupation is examined in terms of working conditions, employment outlook, wages, training and many other aspects that are designed to assist in making informed career decisions.

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Cardiovascular Technologists & Technicians	Opticians, Dispensing
Chiropractors	Optometrists
Clergy	Personal & Home Care Aides
Clinical Laboratory Technologists & Technicians	Pharmacists
Counselors	Pharmacy Aides
Dental Assistants	Pharmacy Technicians
Dental Hygienists	Physical Therapist Assistants & Aides
Dental Laboratory Technicians	Physical Therapists
Dentists	Physicians Assistants
Diagnostic Medical Sonographers	Physicians & Surgeons
Dieticians & Nutritionists	Podiatrists
Emergency Medical Technicians & Paramedics	Private Household Workers
Funeral Directors & Embalmers	Psychologists
Licensed Practical Nurses	Radiologic Technologists
Medical & Health Services Managers	Recreational Therapists

Medical Assistants

Medical Records & Health Information  
Technicians

Medical Transcriptionists

Nuclear Medicine Technologists

Nursing, Psychiatric & Home Health Aides

Occupational Therapist Assistants & Aides

Occupational Therapists

Ophthalmic Laboratory Technicians

Registered Nurses

Respiratory Therapists

Secretaries

Social & Human Service Assistants

Social Workers

Speech-Language Pathologists

Surgical Technologists

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## Cardiovascular Technologists and Technicians

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SOC CODE: 29-2031

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### Significant Points

- Technologists will have more employment opportunities than technicians.
- Graduates from accredited programs are eligible to register as professional technologists.

### Nature of the Work

- Cardiovascular technologists and technicians assist physicians in diagnosing and treating cardiac (heart) and peripheral vascular (blood vessel) ailments.
  - Cardiology technologists* assist with invasive, cardiac catheterization procedures. These procedures can determine if a blockage exists and where it is located.
  - Vascular technologists* use non-invasive tests, such as ultrasound, to diagnose disorders that may affect blood circulation.
  - Echocardiographers* use ultrasound equipment that tests the heart itself.
  - Electrocardiograph technicians* use an electrocardiograph (EKG or ECG) machine to trace the electrical impulses that are transmitted by the heart. Experienced EKG technicians also perform Holter monitoring and stress testing.
- Some cardiovascular technologists and technicians schedule appointments, type doctor interpretations, maintain patient files, and care for equipment.

### Working Conditions

- Most cardiovascular technologists and technicians work a 40-hour week, but are always on-call. Those in catheterization labs tend to work longer hours and may have to work evenings.
- Because they are in close contact with patients who have serious heart ailments, cardiovascular technologists and technicians may feel a great deal of stress.
- Cardiovascular technologists and technicians spend long periods of time standing and walking.

### Employment

- Cardiovascular technologists and technicians held about 44,900 jobs in 2004 in the United States and approximately 2,360 jobs in Pennsylvania.
- About 80 percent worked in hospital cardiology departments. Others worked in physician offices and medical laboratories.

### Job Outlook

- Employment of cardiovascular technologists and technicians in Pennsylvania is expected to decrease from approximately 2,360 in 2004 to approximately 2,150 in 2014. About 44 annual openings will result from replacement needs. Although no net employment growth is expected statewide, growth openings may occur in some areas.
- An aging population and advances in vascular technology will create more employment opportunities for cardiology and vascular technologists, respectively.
- Many hospitals are training nursing aides and other health care workers how to perform basic EKG procedures. As a result, the employment of EKG technicians is expected to decline. Individuals trained in Holter monitoring and stress testing will have the best employment opportunities.

### Earnings

Average annual earnings of cardiovascular technologists and technicians in Pennsylvania were \$40,190 in 2005. The entry-level wage for a cardiovascular technologist/technician in 2005 was \$25,420 while an experienced cardiovascular technologist/technician made \$47,580.

### Training, Other Qualifications and Advancement

Although most cardiovascular technologists complete a formal two-year program, a few are still trained on-the-job. Accredited programs are offered at junior and community colleges. They include one year of core classes followed by a year of specialized instruction in invasive or non-invasive cardiology. Those who are qualified in a related health profession only need to complete the year of specialized instruction.

Graduates from accredited programs are eligible to register as professional technologists with the American



Registry of Diagnostic Medical Sonographers or Cardiovascular Credentialing International.

Although a one-year certificate program exists, most electrocardiograph (EKG) technicians are trained on-the-job. Training lasts eight-to-16 weeks and is usually provided by EKG supervisors or cardiologists. Most employers prefer to train people already in the health care field, such as nursing aides. Some EKG technicians are aspiring cardiovascular technologists who are working part-time to gain experience while enrolled in school.

Cardiovascular technologists and technicians must be reliable and able to follow instructions. They should also have some mechanical aptitude. A pleasant, relaxed manner is necessary for putting patients at ease.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of cardiovascular technologists and technicians include nuclear medicine technologists, radiologic technologists, diagnostic medical sonographers, radiation therapists, and respiratory therapists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- Alliance of Cardiovascular Professionals, 4456 Corporation Ln., Suite 165, Virginia Beach, VA 23462. Internet: <http://www.acp-online.org>
- The Society of Vascular Ultrasound, 4601 Presidents Dr., Suite 260, Lanham, MD 20706. Internet: <http://www.svunet.org>
- American Society of Echocardiography, 1500 Sunday Dr., Suite 102, Raleigh, NC 27607. Internet: <http://asecho.org>
- The American Registry of Diagnostic Medical Sonographers, 51 Monroe Street, Plaza East One, Rockville, MD 20850-2400. Internet: <http://www.ardms.org>
- Cardiovascular Credentialing International, 1500 Sunday Drive, Suite 102, Raleigh, NC 27607. Internet: <http://www.cci-online.org>

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## Chiropractors

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SOC CODE: 29-1011

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### Significant Points

- Employment is expected to increase and job prospects should be good.
- Almost half were self-employed.
- Chiropractors can only practice in the state where they obtained their license.

### Nature of the Work

- **Chiropractors** diagnose and treat patients whose health problems are associated with the muscular, nervous, and skeletal systems. Some specialize in sports injuries, neurology, orthopedics, pediatrics, nutrition, internal disorders or diagnostic imaging.
- The chiropractic approach to health care is holistic, stressing the patient's overall health and wellness. Water, light, massage, ultrasound, electric, and heat therapy are used to treat patients. Chiropractors often counsel patients about health and wellness concepts but do not prescribe drugs or perform surgery.
- A standard routine, including physical, orthopedic, and neurological examinations, is followed to secure the information needed for diagnosis and treatment. Laboratory tests are ordered when necessary.

### Working Conditions

- Most chiropractors work a standard 40-hour week, although longer hours are not uncommon. Self-employed practitioners often set their own hours, but work evenings and weekends to accommodate patients.
- Chiropractors work in clean, comfortable offices.
- They spend long periods of time on their feet.

### Employment

- Chiropractors held about 52,700 jobs in 2004 in the United States and approximately 1,620 jobs in Pennsylvania.
- Almost 46 percent were self-employed. The remaining 54 percent worked for other chiropractors and physicians.

### Job Outlook

- Employment of chiropractors in Pennsylvania is expected to grow from approximately 1,620 in 2004 to approximately 1,920 in 2014. Chiropractors can expect about 29 openings due to growth and about 31 replacement openings for approximately 60 total annual openings.
- Chiropractic treatment of back, neck, and extremities damage has become more accepted as a result of recent research and changing attitudes about alternative health care.
- Job prospects are expected to be good. An aging population will increase the demand for chiropractors. Demand is also related to the ability of patients to pay, either directly or through health insurance.
- Establishing a new practice will be easiest in areas with a low concentration of chiropractors.

### Earnings

- Average annual earnings of chiropractors in Pennsylvania were \$65,200 in 2005. The entry-level wage for a chiropractor in 2005 was \$28,080 while an experienced chiropractor made \$83,760.
- Although earnings are relatively low in the beginning, self-employed chiropractors usually earn more.

### Training, Other Qualifications and Advancement

Chiropractors in Pennsylvania must be licensed in order to practice. Applicants must meet the educational and examination requirements of the state board. At least two years of undergraduate education are required, but completion of a bachelor's degree is preferred. Applicants must have completed a four-year chiropractic program and earned a Doctor of Chiropractic (D.C.) degree. Once the examination is passed, the applicant is considered a licensed chiropractor. However, they are only allowed to practice in the state where they are licensed. In order to maintain their license, a specified amount of continuing education must be completed each year.

Newly licensed chiropractors can set up a new practice, purchase an established one or enter into partnership. Some take a salaried position with an established chiropractor, a group practice or a health care facility.

Keen observation is required to detect physical abnormalities. Considerable hand dexterity is needed to

perform adjustments, but not unusual strength or endurance. Chiropractors should be empathetic, understanding, and have the desire to help others. They should also have the ability to work independently and handle responsibility.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of chiropractors include physicians, dentists, optometrists, podiatrists, veterinarians, occupational therapists, and physical therapists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Chiropractic Association, 1701 Clarendon Blvd., Arlington, VA 22209. Internet: <http://www.amerchiro.org>
- World Chiropractic Alliance, 2950 N Dobson Rd., Suite 1, Chandler, AZ 85224. Internet: <http://www.worldchiropracticalliance.org>
- Dynamic Chiropractic, PO Box 4109, Huntington Beach, CA 92605. Internet: <http://www.chiroweb.com>
- Federation of Chiropractic Licensing Boards, 901 54th Ave., Suite 101, Greeley, CO 80634-4400. Internet: <http://www.fclb.org>

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## Clergy

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SOC CODE: 21-2011

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### Significant Points

- Many religious denominations require a bachelor's degree and some graduate-level study in theology.
- Job prospects should be best for those who are willing to work in small, rural communities.
- About 93 percent served congregations in religious organizations.

### Nature of the Work

- **Clergy** are religious and spiritual leaders who deliver sermons, lead prayers, and read from sacred texts. They may officiate at special ceremonies, such as confirmations, weddings, and funerals. When not conducting worship services, they organize and supervise religious education programs. Some serve as chaplains in the Armed Forces and in hospitals.
- In small congregations, clergy often work personally with parishioners. However, in larger congregations, many aspects of the ministry are shared with one or more associates.
- Some clergy are only responsible to the congregation they serve. Others have their duties assigned by the superiors of the diocese they serve. In some denominations, clergy are reassigned every few years.

### Working Conditions

- Members of the clergy typically work long, irregular hours. Community and educational involvements may require work to be done in the evenings and early mornings, as well as on weekends and holidays.
- Often with short notice, clergy are called upon to visit the sick, comfort the dying, and provide counseling to those in need.
- Because of their roles as spiritual and moral leaders, many clergy feel obligated to address and resolve societal and personal problems of the congregations. These pressures can lead to stress.

### Employment

- Clergy held about 422,200 jobs in 2004 in the United States and approximately 11,740 jobs in Pennsylvania.
- About 93 percent served congregations in religious organizations. Others were employed in hospitals, nursing homes, colleges, and universities.

### Job Outlook

- Employment of clergy in Pennsylvania is expected to grow from approximately 11,740 in 2004 to approximately 12,900 in 2014. Clergy members can expect about 116 openings due to growth and about 241 replacement openings for approximately 357 total annual openings.
- Protestant ministers may face strong competition if the number of qualified candidates remains large and the growth rate of church membership continues to slow.
- Prospects should be very good for those who are willing to work in small, rural communities.
- The shortage of Roman Catholic and Eastern Orthodox priests is expected to continue, resulting in a very favorable job outlook through the year 2014.

### Earnings

- Average annual earnings of clergy in Pennsylvania were \$31,840 in 2005. The entry-level wage for clergy in 2005 was \$16,450 while experienced clergy made \$39,530.
- Salaries can vary substantially, depending on the denomination, geographical location, size, and wealth of the congregation. In some cases, additional income can be earned from officiating at special ceremonies.
- Additional benefits may include housing, transportation, health insurance, and a retirement plan.
- Some Catholic priests take a vow of poverty and are supported by their religious order.

### Training, Other Qualifications and Advancement

Religious leaders must motivate their congregation and exude confidence. They must be willing to listen to others and remain tolerant. An ability to make difficult decisions while under pressure is necessary. In addition, clergy must live up to the moral standards set by their faith and community.

Although minimum educational requirements vary greatly, many religious denominations require a bachelor's degree and some graduate-level study in theology. Other denominations will admit anyone who has been

“called” to the vocation. Many denominations allow women to become clergy. Individuals must realize that they are not only choosing a career but also a way of life. Those considering a career in the clergy should consult their religious leaders to verify specific entrance requirements.

Within the Protestant ministry, each large denomination has its own schools of theology. However, many schools are open to students of all denominations. There are also interdenominational schools that provide training in a wide range of theological viewpoints. All theological school applicants must have a bachelor’s degree. In addition to classroom instruction, many accredited schools require some supervised fieldwork. Graduates of these three-year programs earn a Master of Divinity degree. A Doctor of Ministry degree is awarded to those students who complete an additional two-years of study and have served at least two years as a minister. Those who meet the denominational qualifications for the ministry are usually ordained after graduation or after serving a probationary pastoral period.

To become an ordained rabbi, students must complete a five-year program at a Jewish seminary. Entrance requirements and curriculum depend upon the branch of Judaism with which the seminary is associated. Fieldwork and internships provide an opportunity to gain hands-on experience. Some students may even spend time studying in Jerusalem. Seminary graduates are awarded the title Rabbi and earn the Master of Arts in Hebrew Letters degree. Advanced study can lead to a Doctorate of Hebrew Letters degree.

Priests within the Roman Catholic religion complete at least eight years of study beyond high school, including a college degree and at least four years of theology study at a seminary. Preparatory education for the priesthood may begin in high school, college or the seminary. Seminary programs emphasize theological studies and hands-on fieldwork. Seminary graduates earn a Master of Divinity or Master of Arts degree.

After graduation, newly ordained clergy often begin their careers as leaders of small congregations. Some assist experienced clergy in larger, well-established congregations. With experience, they may advance to positions in larger metropolitan areas with larger congregations. Regardless of their education and years of experience, ordained clergy are often encouraged to continue their theological studies, at least informally.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of clergy include social and human services workers, funeral directors, psychologists, and counselors.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- Center for Applied Research in the Apostolate (CARA), Georgetown University, 2300 Wisconsin Ave, Suite 400, Washington, DC 20057. <http://cara.georgetown.edu>
- Reconstructionist Rabbinical College, 1299 Church Rd., Wyncote, PA 19095. Internet: <http://www.rrc.edu>
- St. Charles Borromeo Seminary (Roman Catholic), 100 East Wynnewood Road, Wynnewood, PA, 19096. Internet: <http://www.scs.edu/>
- Lutheran Theological Seminary at Gettysburg, 61 Seminary Ridge, Gettysburg, PA, 17325. Internet: <http://www.lts.edu/about/index.htm>
- Pittsburgh Theological Seminary (Presbyterian Church U.S.A.), 616 N. Highland Avenue, Pittsburgh, PA, 15206. Internet: <http://www.pts.edu/>
- Saint Tikhon’s Orthodox Theological Seminary, P.O. Box 130, South Canaan, PA, 18459. Internet: <http://www.stots.edu/>
- Trinity Episcopal School for Ministry, 311 Eleventh Street, Ambridge, PA, 15003. Internet: <http://www.tesm.edu/>
- Palmer Theological Seminary (Baptist), 6 Lancaster Avenue, Wynnewood, PA, 19096. Internet: <http://www.palmerseminary.edu/>
- Methodist Theological School in Ohio, 3081 Columbus Pike, Delaware, OH, 43015. Internet: <http://www.mtso.edu/>

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## Clinical Laboratory Technologists & Technicians

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SOC CODES: 29-2011 and 29-2012

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### Significant Points

- Many employers in the health industry prefer to hire certified technologists and technicians.
- Competition for jobs has increased.

### Nature of the Work

- **Clinical laboratory technologists and technicians**, also known as medical technologists and technicians, perform clinical laboratory testing that is used in the detection, diagnosis, and treatment of diseases.
- Complex tests are usually performed and evaluated by technologists. Technicians, working under the supervision of a technologist or laboratory manager, carry out less complex tests and procedures.
- Workers in small laboratories perform many types of tests, whereas those working in larger laboratories generally specialize.

*Clinical chemistry technologists* prepare specimens and analyze the chemical contents of bodily fluids.

*Microbiology technologists* examine and identify bacteria and other microorganisms.

*Blood bank technologists* collect, type, and prepare blood and its components for transfusion.

*Immunology technologists* examine elements and responses of the immune system to foreign bodies.

*Cytotechnologists* prepare slides of body cells and examine them for abnormalities.

*Molecular biology technologists* perform complex genetic testing on cell samples.

*Histology technicians* cut and stain tissue specimens for microscopic examination by pathologists.

*Phlebotomists* collect blood samples.

### Working Conditions

- Work hours vary with the size and type of employer. In large facilities that operate continuously, clinical laboratory personnel often work evenings, weekends, and holidays. Employees in smaller facilities usually work rotating shifts, rather than a set schedule. Some personnel are on-call in case of emergencies.
- Clinical laboratory technologists and technicians spend a great deal of time on their feet, working in clean, well-lit laboratories.
- When proper methods of infection control and sterilization are followed, few hazards exist from working with infectious specimens. However, some specimens, solutions, and reagents do produce fumes.

### Employment

- Clinical laboratory technologists and technicians held about 302,400 jobs in 2004 in the United States and approximately 15,890 jobs in Pennsylvania.
- Over 51 percent were employed by hospitals. Others worked in laboratories, physician offices, and clinics.
- The following table includes the industries that employed the most clinical laboratory technologists and technicians in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
General Medical & Surgical Hospitals	8,130	51.2%
Medical & Diagnostic Laboratories	1,920	12.1%
Offices of Physicians	1,510	9.5%
Other Ambulatory Health Care Services	920	5.8%
Colleges & Universities	760	4.8%

### Job Outlook

- Employment of clinical laboratory technologists and technicians in Pennsylvania is expected to grow from approximately 15,890 in 2004 to approximately 17,510 in 2014. These workers can expect about 162 openings due to growth and about 428 replacement openings for approximately 590 total annual openings.
- Two opposing forces will balance employment growth. More laboratory personnel will be required to handle the increased volume of testing that will occur. However, worker productivity has been increased. Thus, fewer personnel are able to perform more tests.
- Competition for jobs has increased. Individuals may spend more time seeking employment than in the past.

### **Earnings**

- Average annual earnings of medical and clinical technologists in Pennsylvania were \$45,690 in 2005. The entry-level wage for a medical/clinical technologist in 2005 was \$35,190 while an experienced medical/clinical technologist made \$50,930.
- Average annual earnings of medical and clinical technicians in Pennsylvania were \$33,650 in 2005. The entry-level wage for a medical/clinical technician in 2005 was \$23,420 while an experienced medical/clinical technician made \$38,770.

### **Training, Other Qualifications and Advancement**

Most entry-level clinical laboratory technologists have a bachelor's degree in medical technology or one of the life sciences. However, some qualify through a combination of on-the-job and specialized training. Those who perform highly complex tests are required by law to have an associate's degree.

Clinical laboratory technicians often have an associate's degree from a community or junior college. Others complete a certificate program offered by hospitals, vocational-technical schools, and the Armed Forces. A few learn their skills on-the-job.

Voluntary certification is offered by several professional societies or certifying agencies. Different agencies have different certification requirements. Many employers in the health industry prefer to hire certified technologists and technicians. Certified workers may have more opportunities for advancement as well.

Aspiring clinical laboratory technologists and technicians should be able to work well under pressure. Manual dexterity, good analytical judgment, and normal color vision are important traits. Close attention to detail is essential, since small differences or changes can be crucial to patient care. Computer skills are important when operating automated laboratory equipment.

Experienced technologists may advance to supervisory positions in laboratory work or become chief technologists or laboratory managers in hospitals. Some are hired by manufacturing companies to work in product development, marketing, or sales. Clinical laboratory technicians can become technologists through additional education and experience.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of clinical laboratory technologists and technicians include chemists, material scientists, science technicians, crime laboratory analysts, food testers, and veterinary laboratory technicians.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Society for Clinical Pathology, 2100 W. Harrison St., Chicago, IL 60612.  
Internet: <http://www.ascp.org>
- American Medical Technologists, 10700 West Higgins Rd., Rosemont, IL 60018.  
Internet: <http://www.amt1.com>
- American Society for Clinical Laboratory Science, 6701 Democracy Blvd., Suite 300, Bethesda, MD 20817.  
Internet: <http://www.ascls.org>
- National Accrediting Agency for Clinical Laboratory Sciences, 8410 W. Bryn Mawr Ave., Suite 670, Chicago, IL 60631. Internet: <http://www.nacls.org>
- American Association of Bioanalysts, 917 Locust St., Suite 1100, St. Louis, MO 63101.  
Internet: <http://www.aab.org>

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## Counselors

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SOC CODES: 21-1011, 21-1012, 21-1013, 21-1014 and 21-1015

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### Significant Points

- Most counselor positions require a master's degree.
- Counselors in Pennsylvania must adhere to licensing and registration requirements.

### Nature of the Work

- Counselors and therapists assist people with personal, family, educational, mental health, and career decisions and problems.
- Their duties depend on the people they serve and on the settings in which they serve.
  - Educational, vocational, and school counselors* work in elementary, secondary, and postsecondary schools. They help students evaluate their interests, abilities, talents, and personality characteristics in order to develop realistic academic and career goals.
  - Vocational counselors, or employment counselors* help individuals make career decisions.
  - Rehabilitation counselors* help people deal with the personal, social, and vocational effects of disabilities.
  - Mental health counselors* emphasize prevention, and work with individuals and groups to promote optimum mental health.
  - Substance abuse and behavioral disorder counselors* help people who have problems with alcohol, drugs, gambling, and eating disorders.
  - Marriage and family therapists* apply principles, methods, and therapeutic techniques to individuals, family groups, couples, or organizations for the purpose of resolving emotional conflicts.
  - Gerontological counselors* provide services to elderly persons who face changing lifestyles because of health problems, and helps families cope with these changes.
  - Multicultural counselors* help employers adjust to an increasingly diverse workforce.

### Working Conditions

- Most counselors that are not in school settings work a standard 40-hour week. Occasional evening and weekend work may be necessary.
- Most educational, vocational, and school counselors work the traditional 9 or 10-month school year and work the same hours that teachers do. College career planning and placement counselors work long and irregular hours during student recruiting periods.
- Counselors usually meet clients and work in their own private offices due to confidentiality. The work, while satisfying, can be emotionally draining and stressful.

### Employment

- Counselors held about 575,800 jobs in 2004 in the United States and approximately 28,270 jobs in Pennsylvania.
- About 19 percent of counselors worked in elementary and secondary schools. In the private sector, most worked for social service agencies, residential care facilities, and hospitals.
- The following table includes the industries that employed the most counselors in 2002 in Pennsylvania.

Industry	2004 Employment	Percent
Elementary & Secondary Schools	5,320	18.8%
Residential Mental Health Facilities	3,050	10.8%
Individual & Family Services	2,990	10.6%
Outpatient Care Centers	2,900	10.3%
Other Residential Care Facilities	2,500	8.9%

### Job Outlook

- Employment of counselors in Pennsylvania is expected to grow from approximately 28,270 in 2004 to approximately 32,810 in 2014. Counselors can expect about 455 openings due to growth and about 645



replacement openings for approximately 1,100 total annual openings.

- Overall employment of counselors is expected to increase, and numerous job openings will occur as many counselors reach retirement age.
- Demand for educational, vocational, and school counselors is expected to increase as the result of growing student enrollments, legislation, and expansion of counselor's duties.
- Also, demand for vocational or employment counselors that work in state and local government is expected to rise as current welfare laws require welfare recipients to find jobs.

### **Earnings**

- In Pennsylvania, counselors averaged \$31,060 to \$45,440 annually in 2005. Entry-level workers earned between \$20,130 and \$27,470, while experienced counselors were paid anywhere from \$35,980 to \$54,420.
- The following chart includes the average annual, entry level, and experienced level wages in 2005 for counselors in Pennsylvania.

Occupational Title	Average Annual Wage	Entry Level Wage	Experienced Level Wage
Educational, vocational & school counselors	\$31,060	\$21,210	\$35,980
Marriage & family therapists	\$45,440	\$27,470	\$54,420
Mental health counselors	\$38,080	\$25,250	\$44,490
Rehabilitation counselors	\$32,450	\$22,130	\$37,600
Substance abuse & behavioral disorder counselors	\$31,990	\$20,130	\$37,920

### **Training, Other Qualifications and Advancement**

Formal education is necessary to gain employment as a counselor. Counselors in Pennsylvania must adhere to licensing and registration requirements. Although licensing standards may vary, a minimum amount of education and practical work experience is required. In addition, completion of a supervised internship may be necessary. About half of all counselors have a master's degree, which includes a minimum of two years of study and 600 hours of supervised clinical work experience. An increasing emphasis is placed on communication skills, professional ethics, and sensitivity to cultural diversities. All states require school counselors to hold State school counseling certification. Rehabilitation counselors can get voluntary national certification through the Commission on Rehabilitation Counselor Certification. The National Board for Certified Counselors (NBCC) offers voluntary national counseling credentials, which are particularly important for those in private practice.

Aspiring counselors should have the ability to inspire trust, respect, and confidence. They should also have a strong desire to help others. Strong communication skills are essential and they should be able to work independently or as part of a team. They should also follow the code of ethics associated with their respective certifications and licenses.

In order to qualify for advanced positions, counselors may need additional education and significant work experience. Some counselors change career paths and become teachers, researchers, administrators, or consultants. Some go into private or group practices.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of counselors include teachers, social and human service assistants, social workers, psychologists, physicians and surgeons, registered nurses, clergy, occupational therapists, and human resources, training, and labor relations managers and specialists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- Commission on Rehabilitation Counselor Certification, 1835 Rohlwing Rd., Suite E, Rolling Meadows, IL 60008. Internet: <http://www.crc certification.com>
- American Counseling Association, 5999 Stevenson Ave., Alexandria, VA 22304. Internet: <http://www.counseling.org>
- National Board for Certified Counselors (NBCC), 3 Terrace Way, Suite D, Greensboro, NC 27403-3660. Internet: <http://www.nbcc.org>

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## Dental Assistants

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SOC CODE: 31-9091

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### Significant Points

- There will be many employment opportunities for entry-level dental assistants.
- Dental assistants must be licensed in order to work in Pennsylvania.

### Nature of the Work

- *Dental assistants* usually obtain dental records, prepare patients for treatment, and provide instruments to the dentist during dental procedures. Some prepare materials for making impressions and restorations, expose radiographs, and process dental x-ray film.
- In addition to dental care, some dental assistants have laboratory duties. These duties may include making casts from impressions, cleaning removable appliances, and making temporary crowns.
- Most dental assistants also help with office duties, such as scheduling appointments, maintaining treatment records, sending bills, receiving payments, and ordering dental supplies.

### Working Conditions

- Most dental assistants work a 35- to 40-hour workweek. Some evening and weekend work may be required.
- Dental assistants work in a clean, well-lit environment. Most of their work is done near the dental chair.
- To protect themselves from infectious diseases, dental assistants wear gloves and masks. Additional safety measures are taken to minimize the risks of handling radiographic equipment.

### Employment

- Dental assistants held about 267,400 jobs in 2004 in the United States and approximately 8,020 jobs in Pennsylvania.
- Over 95 percent worked in private dental offices. A small number worked in physician offices and hospitals.

### Job Outlook

- Employment of dental assistants in Pennsylvania is expected to grow from approximately 8,020 in 2004 to approximately 10,370 in 2014. Dental assistants can expect about 235 openings due to growth and about 224 replacement openings for approximately 459 total annual openings.
- Population growth and an increased retention of natural teeth will fuel demand for dental services. Many opportunities will be available for entry-level positions offering on-the-job training.
- For many, this occupation provides basic training and experience and serves as a stepping-stone to more highly skilled and higher paying jobs.

### Earnings

Average hourly earnings of dental assistants in Pennsylvania were \$12.75 in 2005. The entry-level rate for a dental assistant in 2005 was \$9.09 while an experienced dental assistant made \$14.59.

### Training, Other Qualifications and Advancement

Dental assistants usually learn their skills through on-the-job training. Some complete formal training programs offered by community colleges, junior colleges, trade schools, technical institutes or the Armed Forces. These programs require a high school diploma and may require typing or science courses for admission.

Accredited training programs last one year or less and lead to a certificate or diploma. They usually include classroom, laboratory, and pre-clinical instruction. Two-year programs, offered by community and junior colleges, lead to an associate's degree. Some vocational schools offer un-accredited programs that last four to six months.

Dental assistants must be licensed in order to work in Pennsylvania. Graduates of an accredited training program or those with two years of experience may take the certification examination. Certification may be an asset when seeking employment.

Most dentists look for dental assistants who are reliable, have good manual dexterity, and can work well with others. Without further education, advancement opportunities are limited. Some dental assistants advance to office manager positions, while others go back to school and become dental hygienists.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of dental assistants include medical assistants, physical therapist assistants, occupational therapist assistants, pharmacy technicians, pharmacy assistants, and veterinary assistants.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Dental Association, 211 E Chicago Ave., Chicago, IL 60611. Internet: <http://www.ada.org>
- Dental Assisting National Board, 676 N. Saint Clair, Suite 1880, Chicago, IL 60611.  
Internet: <http://www.danb.org>
- American Dental Assistants Association, 35 East Wacker Dr., Suite 1730, Chicago, IL 60601-2211.  
Internet: <http://www.dentalassistant.org>

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## Dental Hygienists

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SOC CODE: 29-2021

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### Significant Points

- Flexible scheduling is a distinctive feature of this job.
- Population growth and an increasing demand for dental care services will stimulate employment.
- All dental hygienists must be licensed to work in Pennsylvania.

### Nature of the Work

- *Dental hygienists* examine and clean patients' teeth and gums. They develop dental x-rays and apply cavity prevention agents, such as fluoride.
- Some administer local anesthetics, replace fillings, and remove sutures.
- Many dental hygienists help patients develop and maintain good oral hygiene habits.

### Working Conditions

- Flexible scheduling is a distinctive feature of this job. Full-time, part-time, evening, and weekend work are all available. In fact, many dental hygienists work split schedules between several dentist offices.
- Dental hygienists often work in clean, well-lit offices.
- Important health safeguards include adherence to radiological procedures and the use of protective equipment.

### Employment

- Dental hygienists held about 157,800 jobs in 2004 in the United States and approximately 7,180 jobs in Pennsylvania.
- The number of jobs may be greater than the actual number of practicing dental hygienists because some hygienists hold two or more jobs.
- Over 96 percent worked in private dental offices. A few worked in hospitals or were self-employed.

### Job Outlook

- Employment of dental hygienists in Pennsylvania is expected to grow from approximately 7,180 in 2004 to 9,310 in 2014. Dental hygienists can expect about 213 openings due to growth and about 61 replacement openings for approximately 274 total annual openings.
- Population growth and an increasing demand for dental care services will stimulate employment growth for dental hygienists.
- As workloads increase, more dentists are expected to hire dental hygienists to perform routine procedures.

### Earnings

- Average annual earnings of dental hygienists in Pennsylvania were \$50,760 in 2005. The entry-level wage for a dental hygienist in 2005 was \$36,130 while an experienced dental hygienist made \$58,070.
- Earnings and benefits vary by employment setting. Dental hygienists may be salaried or paid hourly, daily, or on a commission basis. Benefits may be contingent upon full-time employment.

### Training, Other Qualifications and Advancement

Most dental hygienists obtain an associate's degree from a dental hygiene school. Although an associate's degree is usually sufficient for private practice, advanced degrees may be required for research, teaching or clinical positions. Dental hygiene programs provide students with classroom, laboratory, and clinical instruction.

In order to work in Pennsylvania, dental hygienists must be licensed. In order to obtain their license, graduates from an accredited dental hygiene school must pass a written examination, as well as a state-administered clinical examination.

Dental hygienists should work well with others. Manual dexterity is needed to operate dental instruments within a patient's mouth. Previous courses in biology, chemistry, and mathematics provide a strong background.

### Related Occupations

Workers in other occupations with responsibilities and duties related to those of dental hygienists include dental assistants, registered nurses, medical assistants, physician assistants, physical therapist assistants, and occupational therapist assistants.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- The American Dental Hygienists' Association, 444 N. Michigan Ave., Suite 3400, Chicago, IL 60611.  
Internet: <http://www.adha.org>
- American Dental Association, 211 E. Chicago Ave., Suite 1814, Chicago, IL 60611.  
Internet: <http://www.ada.org>

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## Dental Laboratory Technicians

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SOC CODE: 51-9081

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### Significant Points

- Although job opportunities will be favorable, employment growth will be limited.
- Most learn their skills through on-the-job training.

### Nature of the Work

- *Dental laboratory technicians* fill prescriptions for crowns, bridges, dentures, and other dental prosthetics.
- Using the information and mold provided by the dentist, dental laboratory technicians create a working model of the patient's mouth. A wax model of the missing tooth or teeth is created with spatulas and carvers. After many additional steps, including grinding, baking, and sealing, a final product is obtained.
- Job titles can reflect specialization in one of five areas: orthodontic appliances, crowns and bridges, complete dentures, partial dentures, or ceramics.

### Working Conditions

- Most dental laboratory technicians work 40 hours a week. Self-employed technicians may work longer hours.
- Dental laboratory technicians generally have their own workbench in a clean, well-lit area. Their work is very delicate and time consuming.

### Employment

- Dental laboratory technicians held about 50,300 jobs in 2004 in the United States and approximately 1,290 jobs in Pennsylvania.
- Medical and dental suppliers and manufacturers employed the most dental laboratory technicians, about 72 percent. Others worked in dentist offices. About seven percent were self-employed.

### Job Outlook

- Employment of dental laboratory technicians in Pennsylvania is expected to grow from 1,290 in 2004 to 1,420 in 2014. Dental laboratory technicians can expect about 13 annual openings due to growth and about 28 replacement openings for approximately 41 total annual openings.
- Although job opportunities will be favorable, employment growth will be limited by the improvement in the overall dental health of the population.
- Because of relatively low salaries and lack of familiarity with the occupation, employers have difficulty filling trainee positions.

### Earnings

- Average annual earnings of dental laboratory technicians in Pennsylvania were \$31,490 in 2005. The entry-level wage for a dental laboratory technician in 2005 was \$16,780 while an experienced dental laboratory technician made \$38,840.
- Self-employed workers tend to have higher earnings than salaried workers. Dental laboratory technicians working in large laboratories tend to be paid a lower wage than those employed in small laboratories.

### Training, Other Qualifications and Advancement

Although some dental laboratory technicians earn an associate's degree from an accredited program, most learn their craft through on-the-job training. After mastering simple tasks, trainees are taught more complex procedures. It usually requires about three to four years of on-the-job training to become a fully trained technician.

Formal training in dental laboratory technology is available through community colleges, junior colleges, vocational-technical schools, and the Armed Forces. Accredited programs last two years and combine classroom instruction with supervised practical experience. Graduates often need additional hands-on experience to become fully qualified. Voluntary certification is available in each of the five specialty areas.

Dental laboratory technicians should have a high degree of manual dexterity, artistic aptitude, and good vision. They must be able to recognize very fine color shadings and variations in shape. Previous courses in art, metal shop, wood shop, drafting, and sciences provide a strong background for aspiring technicians.

In large laboratories, experienced dental laboratory technicians may advance to supervisor or manager positions. Some decide to teach. Others take product development, marketing or sales positions with a dental supplier. A few open their own laboratories.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of dental laboratory technicians include arch-support technicians, orthotics technicians, prosthetics technicians, opticians and ophthalmic laboratory technicians, and precision instrument and equipment repairers.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- National Association of Dental Laboratories, 1530 Metropolitan Blvd., Tallahassee, FL 32308.  
Internet: <http://www.nadl.org>
- American Dental Association, 211 E. Chicago Ave., Chicago, IL 60611.  
Internet: <http://www.ada.org>

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## Dentists

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SOC CODE: 29-1021, 29-1022, 29-1023, 29-1024 and 29-1029

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### Significant Points

- Employment is not expected to grow as rapidly as the demand for dental services.
- About 25 percent were self-employed.
- All dentists must be licensed to practice in Pennsylvania.

### Nature of the Work

- *Dentists* diagnose, treat, and prevent teeth and tissue problems. They extract teeth and take measurements for dentures. Some perform corrective surgery on gums, and supporting bones to treat gum diseases.
- Dental care is increasingly focused on prevention. Therefore, dentists provide instruction on diet, brushing, flossing, and other aspects of dental care.
- Self-employed dentists oversee a variety of administrative tasks as well. They may employ and supervise dental hygienists, dental assistants, dental laboratory technicians, and receptionists.
- Most dentists are general practitioners, handling a variety of dental needs. Others practice in one of nine specialty areas.

*Orthodontists*, the largest specialty group, straighten teeth.

*Oral and maxillofacial surgeons* operate on the mouth and jaws.

*Pediatric dentists* specialize in dental work for children.

*Periodontists* treat the gums and bones that support the teeth.

*Prosthodontists* are responsible for making artificial teeth or dentures.

*Endodontists* perform root canal therapy.

*Oral pathologists* study the diseases of the mouth.

*Public health dentists* perform a variety of duties relating to dental health and oral hygiene.

*Oral and maxillofacial radiologists* diagnose diseases in the head and neck through imaging technologies.

### Working Conditions

- Dentists usually work four to five days a week, or about 40 hours per week. Some evening and weekend work may be necessary. Initially, dentists may work more hours as they establish their practice.
- A considerable number continue to work part-time beyond the usual retirement age.
- Most have their own practice and work with a small staff. Others have partners or work as associate dentists.

### Employment

- Dentists held about 150,500 jobs in 2004 in the United States and approximately 4,790 jobs in Pennsylvania.
- About 70 percent worked in dentist offices. Another 25 percent were self-employed.

### Job Outlook

- Employment of dentists in Pennsylvania is expected to grow from approximately 4,790 in 2004 to approximately 5,000 in 2014. Dentists can expect about 21 openings due to growth and about 80 replacement openings for approximately 101 total annual openings.
- Demand for dental care should continue to grow. Baby-boomers and elderly people will require more dental care than in the past. The younger generation will continue to need preventive check-ups.
- Employment is not expected to grow as rapidly as the demand for dental services. As their practices expand, dentists are more likely to hire dental hygienists and dental assistants to handle routine services.

### Earnings

- Self-employed dentists in private practice tend to earn more than salaried dentists. However, they must provide their own health insurance, life insurance, and retirement benefits.
- The following table includes the average annual, entry level and experienced level wages in 2005 for dentists (by specialty) in Pennsylvania.



Occupational Title	Average Annual Wage	Entry Level Wage	Experienced Level Wage
Dentists, General	\$111,630	\$63,130	\$135,880
Oral & Maxillofacial Surgeons	\$182,490	\$157,400	\$195,040
Orthodontists	\$168,190	\$113,360	N/A
Prosthodontists	N/A	N/A	N/A
Dentists, All Other Specialties	\$179,190	\$146,420	\$195,580

### **Training, Other Qualifications and Advancement**

All dentists in Pennsylvania must be licensed. After graduating from an accredited dental school, aspiring dentists must pass written and practical examinations to qualify for a license. Candidates may fulfill the written part of the test by passing the National Board Dental Examinations.

Accredited dental schools require a minimum of two years of college-level pre-dental education. However, most applicants have a bachelor's degree. Dental school applicants must take the Dental Admissions Test (DAT). When selecting students, schools usually consider an applicant's DAT scores, grade point average, recommendations, and interviews. After completing four academic years, most dental school students earn a Doctor of Dental Surgery (D.D.S.) or Doctor of Dental Medicine (D.M.D.) degree.

Some dental school graduates work as associate dentists for a year or two in order to gain experience and save money. However, most purchase an established practice or open a new practice immediately after graduation.

Dentistry requires diagnostic ability and manual skills. Aspiring dentists should have good visual memory and excellent judgment of space and shape. Those with previous courses in biology, chemistry, physics, health, and mathematics may have an advantage.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of dentists include clinical psychologists, optometrists, physicians, chiropractors, veterinarians, and podiatrists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Dental Association, 211 E Chicago Ave., Chicago, IL 60611. Internet: <http://www.ada.org>
- American Dental Education Association, 1625 Massachusetts Ave. NW, Suite 600, Washington, DC 20036-2212. Internet: <http://www.adea.org>

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## Diagnostic Medical Sonographers

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SOC CODES: 29-2032

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### Significant Points

- Sixty percent were employed in hospitals.
- An associate degree or higher from an accredited program is required.
- Job opportunities will increase as ultrasound becomes an attractive alternative to other radiological procedures.

### Nature of the Work

- Diagnostic medical sonographers, also known as ultrasonographers, use sound waves to collect reflected echoes and form an image. Occupational titles vary with the types of procedures performed.
  - *Obstetric and gynecologic sonographers* examine a pregnant woman's fetus to track its growth and health.
  - *Abdominal sonographers* inspect an abdominal cavity of a patient to help diagnose and treat conditions.
  - *Neurosonographers* utilize ultrasound to focus on a patient's nervous system, including the brain.
  - *Ophthalmologic sonographers* use ultrasound to study the eyes.
- Diagnostic medical sonographers must follow physicians' orders precisely and conform to safety regulations in order to protect themselves, their co-workers, and the patient from unnecessary radiation exposure.
- In addition to preparing patients and operating equipment, some diagnostic medical sonographers keep patient records, prepare work schedules, and maintain equipment.

### Working Conditions

- Most diagnostic medical sonographers work about 40 hours a week, although evening and weekend work may be required. Some are on-call in case of emergencies.
- Diagnostic medical sonographers spend much of their day on their feet. In addition, they may have to lift or turn disabled patients.
- Some procedures are done at the patients' bedside, although most are done at a diagnostic machine.
- Although there is potential for radiation exposure, use of lead aprons, gloves, and other shielding devices minimize the risk. As further protection, sonographers wear badges that measure radiation levels.

### Employment

- Diagnostic medical sonographers held about 42,300 jobs in 2004 in the United States and approximately 2,130 jobs in Pennsylvania.
- About 60 percent worked in hospitals. About 21 percent worked in physician offices and clinics, including diagnostic imaging centers.
- The following table includes the industries that employed the most diagnostic medical sonographers in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Hospitals	1,280	59.9%
Offices of Physicians	440	20.8%
Medical & Dental Laboratories	330	15.5%

### Job Outlook

- Employment of diagnostic medical sonographers in Pennsylvania is expected to grow from approximately 2,130 in 2004 to approximately 2,260 in 2014. Diagnostic medical sonographers can expect about 13 openings due to growth and about 40 replacement openings for approximately 53 total annual openings.
- Ultrasound is increasingly becoming an attractive alternative method to other radiological procedures as patients seek safer treatment techniques. However, the higher costs may limit the expansion of this technology.
- Hospitals will remain the principal employer of diagnostic imaging technicians. Due to the strong shift toward outpatient care, employment is expected to grow most rapidly in diagnostic imaging centers.

### **Earnings**

Average annual earnings of diagnostic medical sonographers in Pennsylvania were \$50,650 in 2005. The entry-level wage for a diagnostic medical sonographer in 2005 was \$39,310 while an experienced diagnostic medical sonographer made \$56,320.

### **Training, Other Qualifications and Advancement**

Diagnostic sonography programs vary with the credential or degree that is awarded. Certificate programs are offered in hospitals and last one or two years. The one-year program is only available for health professionals, such as medical technologists and registered nurses, who wish to specialize in sonography. Graduates who complete a two-year program at a community college are awarded an associate's degree. Finally, colleges and universities offer a four-year bachelor's degree program. Training is also available through the Armed Forces.

Although sonographers do not need a license to practice in Pennsylvania, voluntary certification is available through the American Registry of Diagnostic Sonographers (ARDMS). Most employers prefer to hire registered sonographers. Beginning in 2005, ARDMS will consider for registration only those with an associate degree or higher from an accredited program.

Continuing education is very important in this field. In fact, sonographers must complete 30 hours of training every three years. Sonographers must be able to explain detailed procedures and put patients at ease. They need good mathematic and scientific skills.

Aspiring medical assistants must be able to explain physicians' instructions and put patients at ease. Pharmacy aides need good basic mathematics skills

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of diagnostic medical sonographers include nuclear medicine technologists, cardiovascular technologists and technicians, radiologic technologists and technicians, clinical laboratory technologists and technicians, and respiratory therapists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- Society of Diagnostic Medical Sonography, 2745 Dallas Pkwy., Suite 350, Plano, TX 75093-8730. Internet: <http://www.sdms.org>
- The American Registry of Diagnostic Medical Sonographers, 51 Monroe St., Plaza East One, Rockville, MD 20850. Internet: <http://www.ardms.org>
- Commission on Accreditation of Allied Health Education Programs, 35 East Wacker Dr., Chicago, IL 60601. Internet: <http://www.caahep.org>

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## Dietitians & Nutritionists

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SOC CODE: 29-1031

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### Significant Points

- Entry-level positions usually require a bachelor's degree.
- Most were employed by hospitals and outpatient care centers.
- Fewer job openings are expected at hospitals as food service operations are contracted out.

### Nature of the Work

- *Dietitians and nutritionists* help prevent and treat illnesses by promoting healthy eating habits and suggesting diet modifications. They supervise the preparation and serving of meals.
- There are several areas of practice including clinical, community, management, and consultant dietetics.
  - *Clinical dietitians* provide nutritional services for patients in institutions such as hospitals and nursing homes. They may also manage food service departments.
  - *Community dietitians* counsel individuals and groups on nutritional practices designed to prevent disease and promote good health. They often work in public health clinics, home health agencies, and health maintenance organizations.
  - *Management dietitians* oversee large-scale meal planning and preparation in health care facilities, company cafeterias, prisons, and schools.
  - *Consultant dietitians* often work under contract with health care facilities or in their own private practices. They perform nutrition screenings for their clients and offer advice on diet-related concerns.

### Working Conditions

- Most dietitians and nutritionists work a 40-hour week. However, weekend and part-time work is common.
- Dietitians and nutritionists spend most of the workday on their feet.
- They usually work in clean, well-lit areas. However, some work is done in warm, congested kitchens.

### Employment

- Dietitians and nutritionists held about 49,700 jobs in 2004 in the United States and approximately 2,740 jobs in Pennsylvania.
- Most were employed by hospitals, outpatient care centers, nursing homes and residential care facilities.
- The following table includes the industries that employed the most dietitians and nutritionists in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
General Medical & Surgical Hospitals	730	26.5%
Outpatient Care Centers	230	8.4%
Special Food Services	230	8.4%
Other Residential Care Facilities	200	7.3%
Colleges & Universities	190	6.9%

### Job Outlook

- Employment of dietitians and nutritionists in Pennsylvania is expected to grow from approximately 2,740 in 2004 to approximately 3,120 in 2014. Dietitians and nutritionists can expect about 39 openings due to growth and about 71 replacement openings for approximately 110 total annual openings.
- A growing and aging population will increase the demand for nutritional counseling. Public interest in nutrition and disease prevention will also spur demand.
- There will be fewer job openings at hospitals as food service operations are contracted out. On the other hand, employment is expected to grow in contract providers of food services, social services agencies, and physician offices. This growth may be constrained by employers who substitute other workers such as health educators, food service managers, and dietetic technicians.

### **Earnings**

Average annual earnings of dietitians and nutritionists in Pennsylvania were \$43,540 in 2005. The entry-level wage for a dietitian in 2005 was \$29,200 while an experienced dietitian made \$50,700.

### **Training, Other Qualifications and Advancement**

Dietitians and nutritionists need a bachelor's degree in dietetics, foods and nutrition, or food service systems management. Those interested in research, advanced clinical positions, or public health may need additional education or even a graduate degree.

A Registered Dietitian credential is awarded to qualified applicants who pass the certification exam. Certification applicants must have completed their academic coursework and supervised internship. There are several accredited programs that combine academic and supervised practice experience in a four or five-year program. A second option requires completion of an accredited internship or pre-professional practice program. Full-time programs usually last about nine to 12 months while part-time programs last about two years.

Experienced dietitians may advance to assistant, associate, or director-level positions of a dietetic department. Some go into business for themselves. Others become sales representatives for equipment, pharmaceutical, or food manufacturers.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of dietitians and nutritionists include home economists, food service managers, nurses, and health educators.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- The American Dietetic Association, 120 S. Riverside Plaza, Suite 2000, Chicago, IL 60606-6995. Internet: <http://www.eatright.org>

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## Emergency Medical Technicians & Paramedics

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SOC CODE: 29-2041

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### Significant Points

- Job opportunities will be best in hospitals and private ambulance services.
- Certification is needed to work as an EMT or EMT-Paramedic.
- A standard workweek can last anywhere from 45 to 60 hours.

### Nature of the Work

- **Emergency medical technicians (EMTs) and paramedics** provide vital medical attention as they transport the sick or injured to medical facilities. Some are trained to treat patients with minor injuries at the scene.
- A 911 center usually dispatches an ambulance staffed with EMTs and paramedics to the scene, where they work with police and fire department personnel. After determining the patient's condition, one person drives while the other monitors the patient's vital signs and gives additional care as needed.
- The specific responsibilities of EMTs and paramedics depend on their level of certification.

**First Responders** tend to be the first to arrive at the scene of an incident. They are trained to provide basic emergency medical care. Many firefighters and police officers have this level of training.

**EMT-Basics (EMT-1)** are trained to care for patients at the accident scene and transport them to the hospital, if necessary.

**EMT-Paramedics (EMT-4)** provide the most extensive pre-hospital care. They may administer drugs, interpret electrocardiograms (EKGs) or perform endotracheal intubations.

### Working Conditions

- Emergency medical technicians and paramedics usually work 45 to 60 hour weeks. Because emergency service is needed 24 hours a day, irregular working hours are common. Many are also on-call in case of emergencies.
- Safety procedures must be followed to reduce the risks of hearing loss, back injury, disease exposure, and patient violence.
- A lot of time is spent kneeling, bending, and lifting heavy equipment. Although physically strenuous and stressful, many EMTs and paramedics find their work exciting and challenging.

### Employment

- Emergency medical technicians and paramedics held about 191,500 jobs in 2004 in the United States and approximately 14,310 jobs in Pennsylvania.
- About 60 percent worked for private ambulance firms. Others were employed in hospitals and local government agencies. Many others volunteer their time, especially in smaller cities and rural areas.

### Job Outlook

- Employment of emergency medical technicians and paramedics in Pennsylvania is expected to grow from approximately 14,310 in 2004 to approximately 18,180 in 2014. EMTs and paramedics can expect about 388 openings due to growth and about 164 replacement openings for approximately 552 total annual openings.
- An aging and growing population will stimulate employment growth. Furthermore, more volunteer positions will change to paid positions.
- In addition to job growth, openings will occur as workers leave because of stressful working conditions, limited advancement potential and modest pay. Some EMTs and paramedics leave the workforce and return to school.
- Job opportunities will be best in hospitals and private ambulance services. Competition will be great for local government positions.

### Earnings

Average annual earnings of emergency medical technicians and paramedics in Pennsylvania were \$25,680 in 2005. The entry-level wage for an EMT in 2005 was \$17,800, while an experienced EMT made \$29,620.

### Training, Other Qualifications and Advancement

Formal training programs are offered at two progressive levels: EMT-Basic and EMT-Paramedic. EMT-Basic training represents the first level of skills. Coursework, emphasizing emergency skills, is combined with practical experience in an emergency room or ambulance. Graduates who pass a written and practical examination

are awarded the title of certified EMT-Basic. This basic training course is also a prerequisite for EMT-Paramedic training.

EMT-Paramedic is the most advanced training program lasting one to two years and can result in an associate's degree. Extensive coursework, clinical exposure, and field experience are required. Such education prepares the student for the Pennsylvania Registry certification examination. Certification is needed to work as an EMT-Paramedic in Pennsylvania.

In order to maintain their certification, EMTs and paramedics must fulfill continuing education requirements, and paramedics must also attain medical command authorization. Refresher courses are available for EMTs and paramedics at all levels of skill.

Emergency medical technicians and paramedics should be emotionally stable, agile, and be able to move heavy loads. Good eyesight and accurate color vision are essential to aspiring EMTs and paramedics.

EMT-Paramedics can advance to emergency medical supervisor, operations manager, administrative director, or executive director positions. Some become instructors, dispatchers, or physician assistants. Others take sales or marketing positions with emergency medical equipment companies.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of emergency medical technicians and paramedics include police officers, firefighters, air traffic controllers, and healthcare workers.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- National Registry of Emergency Medical Technicians, PO Box 29233, Columbus, OH 43229. Internet: <http://www.nremt.org>
- National Highway Transportation Safety Administration, EMS Division, 400 7th St SW., NTS-14, Washington, DC 20590. Internet: <http://www.nhtsa.dot.gov/people/injury/ems/>
- PA Department of Health: [www.health.state.pa.us/ems](http://www.health.state.pa.us/ems)

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## Funeral Directors & Embalmers

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SOC CODES: 11-9061 and 39-4011

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### Significant Points

- Licensing is required to work in Pennsylvania.
- Employment opportunities should be good, but job seekers may have to relocate.

### Nature of the Work

- **Funeral directors**, also called morticians and undertakers, arrange the details and handle the logistics of funerals. Together with the family, they prepare obituary notices, organize memorial services and arrange for the burial or destruction of the remains.
- Most funeral directors assist families with necessary death-related activities, such as filing for a formal certificate of death and notifying the Social Security Administration. They help family members apply for veterans' benefits and transfer existing pensions, insurance policies or annuities.
- Many are licensed **embalmers**, who preserve the remains by replacing blood with embalming fluid. If the body is disfigured or maimed, they can use a variety of materials to reshape or reconstruct it. Some are responsible for applying cosmetics, dressing the body and placing it in the casket.
- Increasingly, funeral directors prearrange funerals. This provides peace of mind and ensures that the client's wishes will be taken care of in an appropriate manner.
- Funeral homes are usually small, family-run businesses. Therefore, funeral directors have the additional responsibility of running a successful and profitable business.

### Working Conditions

- Funeral directors and embalmers often work long, irregular hours. They are usually on-call and may be needed in the middle of the night. Because funeral homes are open evenings and weekends, shift work is common. Work hours tend to be longer in smaller establishments.
- Strict health regulations must be followed to minimize the risk of infection when handling the remains of those who had a contagious disease.
- Appropriate attire must be worn to show respect and consideration for the grieving families. Suits, ties and dresses are customary.

### Employment

- Funeral directors and embalmers held about 38,300 jobs in 2004 in the United States and approximately 1,340 jobs in Pennsylvania.
- Eighty-five percent worked in the funeral service and crematory industry. About 1 in 7 were self-employed.

### Job Outlook

- Employment of funeral directors and embalmers in Pennsylvania is expected to grow from approximately 1,340 in 2004 to approximately 1,380 in 2014. Funeral directors and embalmers can expect about 6 openings due to growth and about 38 replacement openings for approximately 44 total annual openings.
- A growing elderly population will result in additional deaths and increased demand for funeral services.
- Many job opportunities will be available as funeral directors reach retirement age. Likewise, many college graduates leave the profession after becoming a licensed funeral director. This trend is expected to continue and will contribute to the number of job openings.
- Although employment opportunities should be good, job seekers may have to relocate.

### Earnings

- Average annual earnings of funeral directors in Pennsylvania were \$65,140 in 2005. The entry-level wage for a funeral director in 2005 was \$38,870 while an experienced funeral director made \$78,270.
- Average annual earnings of embalmers in Pennsylvania were \$34,630 in 2005. The entry-level wage for an embalmer in 2005 was \$22,680 while an experienced embalmer made \$40,610.

### Training, Other Qualifications and Advancement

Funeral directors and embalmers must be licensed in order to practice in Pennsylvania. A single license allows recipients to perform both duties. Applicants for this license must be 21 years of age, must have served an



apprenticeship and have two years of formal education that includes mortuary science studies. Those who pass the licensure examination may join the staff of any funeral home. To maintain their license, funeral directors must attend continuing education programs that address issues in communications, counseling and management.

Formal education programs in mortuary science can last anywhere from two to four years. Community and junior colleges offer two-year programs, while colleges and universities offer both two- and four-year programs. Courses include a wide variety of subjects including anatomy, embalming techniques, business management, grief counseling and computers.

Apprenticeships, which provide practical experience in all facets of the funeral service, must be completed under a licensed funeral director or embalmer. These programs usually last one to three years and may be served before, during or after completing mortuary school.

Successful funeral directors are composed, tactful and able to comfort people in their time of sorrow. Strong communication skills are also very important. Previous courses in biology, chemistry and public speaking are beneficial. Part-time jobs in funeral homes allow aspiring funeral directors to become familiar with business operations while performing basic maintenance and janitorial work.

Advancement opportunities are best in larger funeral homes, where funeral directors may earn promotions to higher paying positions. Some experienced directors open their own funeral homes.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of funeral directors and embalmers include clergy, social workers, psychologists, psychiatrists and other health care professionals.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- National Funeral Directors Association, 13625 Bishop's Dr., Brookfield, WI 53005.  
Internet: <http://www.nfda.org>
- American Board of Funeral Service Education, 38 Florida Ave., Portland, ME 04103.  
Internet: <http://www.abfse.org>
- The Funeral Service Educational Foundation, 13625 Bishop's Dr., Brookfield, WI 53005.  
Internet: <http://www.fsef.org>

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## Licensed Practical Nurses

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SOC CODE: 29-2061

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### Significant Points

- Job opportunities will be best in nursing homes and home health care agencies.
- Licensed practical nurses must pass a licensing examination in order to work in Pennsylvania.

### Nature of the Work

- Licensed practical nurses (LPNs) provide basic bedside care. They also help patients with bathing, dressing, and personal hygiene. Some administer prescribed medications or start intravenous fluids.
- In addition to their nursing duties, licensed practical nurses perform other duties as well. These duties, which vary with the employer, may include developing care plans, making appointments, keeping records, preparing meals, and supervising nursing aides.
- Some LPNs help deliver, care for, and feed infants.

### Working Conditions

- Most LPNs work a 40-hour week. Evening, weekend, and holiday shifts may be required in hospitals and nursing homes.
- LPNs often stand for long periods. They must deal with heavy workloads and patients that may be confused, irrational, agitated, or uncooperative.
- Rigid guidelines must be observed when dealing with infectious diseases, radiation, and caustic chemicals.

### Employment

- LPNs held about 725,700 jobs in 2004 in the United States and approximately 36,770 jobs in Pennsylvania.
- Most worked in nursing homes or hospitals. Others worked in physician offices and local government agencies.
- The following table includes the industries that employed the most LPNs in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
General Medical & Surgical Hospitals	9,900	26.9%
Nursing Care Facilities	8,810	24.0%
Offices of Physicians	3,390	9.2%
Community Care Facility for the Elderly	2,530	6.9%
Home Health Care Services	2,300	6.3%

### Job Outlook

- Employment of LPNs in Pennsylvania is expected to grow from approximately 36,770 in 2004 to approximately 43,370 in 2014. LPNs can expect about 661 openings due to growth and about 802 replacement openings for approximately 1,463 total annual openings.
- A growing elderly population and the general growth of health care will create many job opportunities in nursing homes and home health care agencies.
- The number of hospital positions is expected to decline as more sophisticated procedures are now performed by outside agencies. Therefore, licensed practical nurses seeking hospital positions can expect strong competition.

### Earnings

Average annual earnings of licensed practical nurses in Pennsylvania were \$37,990 in 2005. The entry-level wage for an LPN in 2005 was \$28,740 while an experienced LPN made \$42,750.

### Training, Other Qualifications and Advancement

All LPNs must complete an approved practical nursing program, which lasts one year and combines classroom study with supervised clinical practice. Vocational-technical schools, community colleges, and junior

colleges offer practical nursing programs. Most schools require a high school diploma for entry, but some nursing programs accept people without a diploma. Upon graduation, students must pass a licensing examination in order to work in Pennsylvania.

Aspiring LPNs should be caring and sympathetic yet emotionally stable. They should be able to follow instructions and work well with others. In general, LPNs are closely supervised.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of LPNs include emergency medical technicians, human service assistants, surgical technologists, and physician assistants.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- National League for Nursing, 61 Broadway, New York, NY 10006. Internet: <http://www.nln.org>
- National Association for Practical Nurse Education and Services, Inc., 8607 2<sup>nd</sup> Ave., #404A, Silver Spring, MD 20910. Internet: <http://www.napnes.org/>
- National Federation of Licensed Practical Nurses, Inc., 605 Poole Drive, Garner, NC 27529. Internet: <http://www.nflpn.org/>

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## Medical & Health Services Managers

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SOC CODE: 11-9111

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### Significant Points

- A master's degree is preferred for most manager positions.
- Opportunities will be best in home health care agencies, residential facilities, and physicians' offices.
- Long work hours are common at hospitals and nursing homes.

### Nature of the Work

- *Health services managers* plan, direct, coordinate, and supervise the delivery of health care. Generalist managers oversee an entire facility or system, while clinical managers are in charge of specific departments or services. Clinical managers often have previous training or experience in their specific area.
- Small group practices usually employ one health service manager to handle all of the duties while larger medical groups often employ a chief administrator and several assistants.
- Managers in health maintenance organizations (HMOs) and other managed care settings perform more community outreach and preventative care work than those in a group practice.
- In the future, health services managers will be called upon to improve the efficiency of health care facilities and the quality of health care that is provided.

### Working Conditions

- Because facilities such as nursing homes and hospitals operate around the clock, most health services managers work long hours. They may be called at all hours to deal with problems.
- Health services managers may have to travel to attend meetings and to inspect satellite facilities.

### Employment

- Medical and health services managers held about 248,200 jobs in 2004 in the United States and approximately 11,740 jobs in Pennsylvania.
- Most were employed by hospitals. Others worked in nursing homes and personal care facilities.
- The following table includes the industries that employed the most medical and health services managers in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
General Medical & Surgical Hospitals	3,810	32.4%
Offices of Physicians	940	8.0%
Local Government	750	6.4%
Nursing Care Facilities	640	5.4%
Outpatient Care Centers	640	5.4%

### Job Outlook

- Employment of medical and health services managers in Pennsylvania is expected to grow from approximately 11,740 in 2004 to approximately 13,190 in 2014. Medical and health services managers can expect about 145 openings due to growth and about 229 replacement openings for approximately 374 total annual openings.
- Opportunities will be best for those with work experience in the health care field and strong business skills. However, competition for jobs will increase at all levels.
- Employment in home health care agencies, residential care facilities, and physician offices will grow the fastest. As technologies improve, many services previously provided in hospitals will be shifted to these sectors.

### Earnings

Average annual earnings of medical and health service managers in Pennsylvania were \$73,680 in 2005. The entry-level wage for a medical or health service manager in 2005 was \$45,000 while an experienced medical or health service manager made \$88,030.

### **Training, Other Qualifications and Advancement**

A master's degree is required for most generalist manager positions, although a bachelor's degree may be adequate for smaller facilities. In fact, those employed in physicians' offices may substitute on-the-job experience for formal education. Clinical managers should have an appropriate bachelor's degree and sufficient work experience. However, a master's degree in health services administration may be required for advancement.

Many colleges and universities offer two to three year programs in health administration. Some of these programs allow students to specialize in one area while others encourage a generalist approach. Competition is keen and candidates may need above-average grades and previous work experience in health care to gain admission. Although some programs seek applicants with an undergraduate degree in business or health administration, many prefer those with a liberal arts or health profession background.

Although a graduate's starting position will vary with their experience and the size of the organization, most start as department managers or in staff positions. Some take jobs with HMO's, large medical group practices, clinics, mental health facilities, and consulting firms. A license is not required in most areas of health services management. However, nursing home administrators must pass an examination, complete a State-approved training program, and pursue continuing education.

Health services managers must be open to different opinions and able to interpret contradictory information. Tact, diplomacy, flexibility, and strong communication skills are essential for interacting with others. Furthermore, managers must understand finance and information systems.

For most health services managers, advancement takes the form of higher wages and more responsibility. Such positions include assistant or associate administrator.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of medical and health services managers include public health directors, social welfare administrators, directors of voluntary health agencies, health professional associations, and insurance underwriters.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American College of Healthcare Executives, One North Franklin St., Suite 1700, Chicago, IL 60606.  
Internet: <http://www.ache.org>
- Association of University Programs in Health Administration, 730 11<sup>th</sup> St. NW, 4<sup>th</sup> Floor, Washington, DC 20001-4510. Internet: <http://www.aupha.org>
- American College of Health Care Administrators, 300 N. Lee St., Suite 301, Alexandria, VA 22314.  
Internet: <http://www.achca.org>
- Medical Group Management Association, 104 Inverness Terrace East, Englewood, CO 80112-5306.  
Internet: <http://www.mgma.org>
- Professional Association of Health Care Office Managers, 461 E. Ten Mile Rd., Pensacola, FL 32534-9712.  
Internet: <http://www.pahcom.com>

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## Medical Assistants

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SOC CODE: 31-9092

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### Significant Points

- Certified medical assistants will have the best opportunities.
- Employers prefer to hire those who have completed formal education programs.

### Nature of the Work

- **Medical assistants** perform routine tasks that keep the offices and clinics of physicians, podiatrists, chiropractors, and optometrists running smoothly.  
Administrative duties include answering telephones, scheduling appointments, greeting patients, updating medical records, filling out insurance forms, arranging hospital admissions, maintaining supplies, billing, and general bookkeeping.  
Clinical duties include taking medical histories, recording vital signs, explaining medication and treatment procedures, preparing patients for examination, assisting the physician, collecting laboratory specimens, and drawing blood.
- Assistants who specialize may have additional work beyond administrative and clerical duties. For example, *podiatric medical assistants* make castings of feet, develop x-rays, and assist podiatrists in surgery. *Ophthalmic medical assistants* administer diagnostic tests, measure vision, and test eye muscle functioning.

### Working Conditions

- Most medical assistants work a standard 40-hour week, although some evening and weekend work may be required. Part-time work is also common.
- Medical assistants spend their days in clean, well-lit environments.
- Interaction with other people is constant. Medical assistants may have to handle several responsibilities at once.

### Employment

- Medical assistants held about 387,100 jobs in 2004 in the United States and approximately 16,850 jobs in Pennsylvania.
- Most worked in physician, chiropractor, optometrist, and podiatrist offices. Several were employed by hospitals or other health care facilities.
- The following table includes the industries that employed the most medical assistants in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Offices of Physicians	9,180	54.5%
General Medical & Surgical Hospitals	3,260	19.3%
Offices of Other Health Practitioners	1,220	7.2%
Outpatient Care Centers	1,050	6.2%

### Job Outlook

- Employment of medical assistants in Pennsylvania is expected to grow from approximately 16,850 in 2004 to approximately 21,780 in 2014. Medical assistants can expect about 493 openings due to growth and about 312 replacement openings for approximately 805 total annual openings.
- Medical assistants work primarily in outpatient settings, where employment growth is faster than average. An increase in the number of group practices, clinics, and other health care facilities that need a lot of support personnel will drive the demand for medical assistants.
- Job prospects should be good for those with formal training or previous experience. Certified medical assistants will have the best opportunities.

### Earnings

Average annual earnings of medical assistants in Pennsylvania were \$25,530 in 2005. The entry-level wage for a medical assistant in 2005 was \$18,910 while an experienced medical assistant made \$28,830.

### **Training, Other Qualifications and Advancement**

Although some medical assistants are trained on-the-job, most employers prefer to hire those with formal training. Educational programs last one to two years and are offered in vocational-technical schools, community colleges, junior colleges, four-year colleges, and universities. Accredited programs usually include a clinical internship as well as classroom instruction. Graduates of one-year programs obtain a certificate or diploma, while those who complete a two-year program are awarded an associate's degree.

There are several agencies that award voluntary certification to those who pass the national examination. Even though licensing is not required, many employers prefer to hire certified medical assistants. Furthermore, only certified workers can perform certain clinical tasks, such as x-raying.

Aspiring medical assistants must be able to explain physicians' instructions and put patients at ease. They must respect the confidential nature of medical information. Their clinical duties require a reasonable level of manual dexterity and visual acuity. Because they deal with the public, medical assistants must be well groomed and have a courteous, pleasant manner.

Experienced medical assistants may qualify for a variety of administrative support occupations. Some advance to office manager positions while others decide to teach. With additional education, medical assistants can become nurses or medical technologists.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of medical assistants include medical secretaries, medical record clerks, dental assistants, occupational therapist aides, and physical therapy aides.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Association of Medical Assistants, 20 N. Wacker Dr., Suite 1575, Chicago, IL 60606.  
Internet: <http://www.aama-ntl.org>
- American Society of Podiatric Medical Assistants, 2124 S. Austin Blvd., Cicero, IL 60804.  
Internet: <http://www.aspma.org>
- American Medical Technologists, 710 Higgins Rd., Park Ridge, IL 60068.  
Internet: <http://www.amt1.com>
- Accrediting Bureau of Health Education Schools, 7777 Leesburg Pike, Suite 730, Falls Church, VA 22043.  
Internet: <http://abhes.org>
- Joint Commission on Allied Health Personnel in Ophthalmology, 2025 Woodlane Drive, St. Paul, MN 55125.  
Internet: <http://www.jcahpo.org>

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## Medical Records & Health Information Technicians

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SOC CODE: 29-2071

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### Significant Points

- Most entry-level positions require an associate's degree.
- Job opportunities will be best in physician offices, clinics, nursing homes, and home health agencies.

### Nature of the Work

- **Medical record and health information technicians** organize patient records and evaluate them for completeness and accuracy. They may talk to the physician to clarify or obtain additional information.
- Some technicians are responsible for assigning a code to each diagnosis and procedure. They use a software program to assign the patient to a "diagnosis-related group" or DRG. This DRG determines the amount the hospital will be reimbursed if the patient is covered by insurance.
- Computer programs are also used to tabulate and analyze data. This data can be used to improve patient care and control costs. It can also be used in legal actions or in response to surveys.

### Working Conditions

- Most medical record and health information technicians work a 40-hour week, although some overtime may be required. Those employed by hospitals may have to work evenings, weekends, and holidays.
- Health information technicians work in comfortable offices. They have little physical contact with patients.
- Those who work at computer monitors for prolonged periods may be susceptible to eyestrain, back discomfort, and wrist problems.

### Employment

- Medical record and health information technicians held about 158,800 jobs in 2004 in the United States and approximately 6,030 jobs in Pennsylvania.
- About 46 percent worked in hospitals. Others were employed in physician offices, nursing homes, clinics, and home health agencies.
- The following table includes the industries that employed the most medical record and health information technicians in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
General Medical & Surgical Hospitals	2,770	45.9%
Offices of Physicians	900	14.9%
Nursing Care Facilities	420	6.9%
Community Care Facility for the Elderly	280	4.6%

### Job Outlook

- Employment of medical record and health information technicians in Pennsylvania is expected to grow from approximately 6,030 in 2004 to approximately 6,930 in 2014. Medical record and health information technicians can expect about 90 openings due to growth and about 86 replacement openings for approximately 176 total annual openings.
- Job prospects for formally trained medical record and health information technicians should be very good.
- Although hospitals will continue to employ a large percentage of these technicians, more opportunities will exist in physician offices, clinics, nursing homes, and home health agencies.

### Earnings

Average annual earnings of medical records and health information technicians in Pennsylvania were \$29,200 in 2005. The entry-level wage for a medical records and health information technician in 2005 was \$20,320 while an experienced medical records and health information technician made \$33,640.



### **Training, Other Qualifications and Advancement**

Entry-level medical record and health information technicians usually have an associate degree from a community or junior college. Some hospitals will advance promising health information clerks into technician positions. This on-the-job advancement usually requires two to four years of experience and completion of an in-house training program.

Graduates of an accredited training program may take the certification examination offered by the American Health Information Management Association (AHIMA). Medical record and health information technicians who pass the written examination are awarded the title Accredited Record Technician (ART). Many employers prefer to hire accredited technicians. Those who specialize in coding may also obtain voluntary certification.

Senior medical record and health information technicians may advance into supervisory or managerial positions. In small facilities, accredited technicians may become director or assistant director of the health information department.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of health information technicians include medical secretaries, medical transcriptionists, medical writers, and medical illustrators.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Health Information Management Association, 233 N. Michigan Ave., Suite 2150, Chicago, IL 60601-5800. Internet: <http://www.ahima.org>

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## Medical Transcriptionists

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SOC CODE: 31-9094

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### Significant Points

- Certified medical transcriptionists should have the best job opportunities.
- Almost three-quarters were employed in physicians' offices or hospitals.

### Nature of the Work

- Medical transcriptionists, also called medical transcribers and medical stenographers, transcribe spoken words into a format that is clear and comprehensible. They use headsets and transcribing machines to reproduce reports dictated by physicians and other healthcare professionals.
- Those who work in physician's offices may have other office duties, such as receiving patients, scheduling appointments, answering the phone, and handling incoming and outgoing mail.

### Working Conditions

- Most medical transcriptionists work a standard 40-hour week. However, part-time work is also common. Those who are self-employed may work irregular hours.
- Medical transcriptionists work in comfortable settings. An increasing number work from home-based offices.
- Workers in these occupations may suffer from wrist, back, neck, or eye problems. The pressure to be accurate and fast can be stressful.

### Employment

- Medical transcriptionists held about 104,700 jobs in 2004 in the United States and approximately 7,070 jobs in Pennsylvania.
- About 37 percent were employed in physicians' offices, with another 37 percent employed by hospitals.
- The following table includes the industries that employed the most medical transcriptionists in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Offices of Physicians	2,610	36.9%
General Medical & Surgical Hospitals	2,590	36.7%
Business Support Services	610	8.6%
Self-Employed	440	6.3%

### Job Outlook

- Employment of medical transcriptionists in Pennsylvania is expected to grow from approximately 7,070 in 2004 to approximately 8,230 in 2014. These workers can expect about 115 openings due to growth and about 131 replacement openings for approximately 246 total annual openings.
- An aging population will result in rapid employment growth among medical transcriptionists. Job opportunities should be best for those who earn an associate degree or certification.
- Advancements in speech recognition technology are not anticipated to considerably reduce the need for medical transcriptionists because these workers also edit and check for accuracy.

### Earnings

Average annual earnings of medical transcriptionists in Pennsylvania were \$27,780 in 2005. The entry-level wage for a medical transcriptionist in 2005 was \$22,410 while an experienced medical transcriptionist made \$30,460.

### Training, Other Qualifications and Advancement

Many vocational schools and community colleges offer two-year medical transcription programs, which combine classroom instruction with on-the-job experience. Employers prefer to hire transcriptionists who have

earned an associate's degree from these programs. The American Association for Medical Transcriptionists awards a voluntary designation of Certified Medical Transcriptionist (CMT) to those who pass written and practical examinations.

Aspiring medical transcriptionists must understand medical terminology and have good grammar and listening skills. They should be familiar with personal computers and word processing software. Experienced medical transcriptionists can advance to supervisory positions, home-based work, consulting, or teaching.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of medical transcriptionists include court reporters, administrative assistants, bookkeepers, receptionists, secretaries, human resource clerks, paralegals, medical assistants, and medical record technicians.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Association for Medical Transcription, 100 Sycamore Ave., Modesto, CA 95354.  
Internet: <http://www.aamt.org>

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## Nuclear Medicine Technologists

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SOC CODE: 29-2033

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### Significant Points

- All nuclear medical technologists in Pennsylvania must be licensed.
- Over 86 percent were employed by hospitals.
- Opportunities will be best for those who can perform nuclear medicine and radiologic procedures.

### Nature of the Work

- *Nuclear medicine technologists* prepare and administer radiopharmaceuticals, which are used to diagnose and treat disease. They operate cameras that detect and map the radioactive drugs in the patient's body. An image is then created on photographic film or a computer monitor.
- When preparing radiopharmaceuticals, nuclear medicine technologists adhere to safety standards that keep the radiation dose to workers and patients as low as possible.
- Some perform studies that assess the behavior of a radioactive substance inside the body.

### Working Conditions

- Most nuclear medicine technologists work a 40-hour week, however some evening and weekend work may be required. Part-time and shift work is also available. Some technologists are on-call in case of emergencies.
- Nuclear medicine technologists spend much of their day on their feet. In addition, technologists may have to lift or turn disabled patients.
- Although there is potential for radiation exposure, use of safety equipment and strict adherence to safety guidelines minimize the risk. As further protection, technologists wear badges that measure radiation levels.

### Employment

- Nuclear medicine technologists held about 17,900 jobs in 2004 in the United States and approximately 930 jobs in Pennsylvania.
- Over 86 percent were employed by hospitals. Others worked in physician offices and clinics.

### Job Outlook

- Employment of nuclear medicine technologists in Pennsylvania is expected to decrease from approximately 930 in 2004 to approximately 920 in 2014. About 17 annual openings will result from replacement needs. Although no net employment growth is expected statewide, growth openings may occur in some areas.
- While no growth is projected for nuclear medicine technologists at this time, the occupation should remain in demand due to the aging population, who are the primary users of diagnostic procedures.
- Technological innovations will also increase the diagnostic uses of nuclear medicine. Cost considerations may affect the speed with which new applications are introduced.

### Earnings

Average annual earnings of nuclear medicine technologists in Pennsylvania were \$55,230 in 2005. The entry-level wage for a nuclear medicine technologist in 2005 was \$41,810 while an experienced nuclear medicine technologist made \$61,940.

### Training, Other Qualifications and Advancement

Nuclear medicine technology programs vary with the credential or degree that is awarded. Certificate programs are offered in hospitals and last one or two years. The one-year program is only available for health professionals, such as radiologic and ultrasound technicians, who wish to specialize in nuclear medicine. Graduates who complete a two-year program at a community college are awarded an associate's degree. Finally, colleges and universities offer a four-year bachelor's degree program.

Regardless of their training, nuclear medicine technologists must meet the minimum Federal standards on the administration of radioactive drugs and the operation of radiation detection equipment. In addition, all nuclear medical technologists in Pennsylvania must be licensed.

Nuclear medicine technologists may advance to supervisor, chief technologist, or department administrator positions. Some take positions in research laboratories. With advanced education, nuclear medicine technologists can become instructors or directors in nuclear medicine technology programs.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of nuclear medicine technologists include radiologic technologists, diagnostic medical sonographers, cardiovascular technologists, electroneurodiagnostic technologists, clinical laboratory technologists, perfusionists, radiation therapists, and respiratory therapists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- The Society of Nuclear Medicine, 1850 Samuel Morse Dr., Reston, VA 20190. Internet: <http://www.snm.org>
- American Society of Radiologic Technologists, 15000 Central Ave. SE, Albuquerque, NM 87123-3917. Internet: <http://www.asrt.org>
- Nuclear Medicine Technology Certification Board, 2970 Clairmont Rd., Suite 935, Atlanta, GA 30329. Internet: <http://www.nmtcb.org>

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## Nursing, Psychiatric & Home Health Aides

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SOC CODES: 31-1011, 31-1012 and 31-1013

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### Significant Points

- Employment opportunities will be good because of fast growth and high turnover.
- Entry-level positions require minimal education and training.

### Nature of the Work

- Nursing, psychiatric and home health aides (commonly referred to as direct care workers) help care for ill, injured or disabled individuals who are confined to hospitals, nursing homes, residential care facilities, or mental health institutions.
  - Nursing aides* help patients eat, dress, move, and bathe. They also answer call bells, deliver messages, serve meals, make beds, and take vital signs. They are also known as nursing assistants, geriatric aides, or hospital attendants.
  - Psychiatric aides* care for mentally impaired or emotionally disturbed individuals. They lead patients in educational and recreational activities and help them with basic personal hygiene. They are also known as mental health assistants and psychiatric nursing assistants.
  - Home health aides* help patients live in their own homes instead of a health facility. They provide health-related services, such as administering oral medications and taking vital signs. Like nursing aides, they help patients eat, dress, move, and bathe.
- The physical, mental, and emotional conditions of the patients are observed and recorded. Any changes are reported to the nursing or medical staff.

### Working Conditions

- Although most direct care workers put in a 40-hour week, part-time work is also common. Evening, weekend and holiday work may be required.
- Direct care workers spend many hours standing and walking. They may have to lift and move patients. Certain duties, such as emptying bedpans and changing soiled bed linens, can be unpleasant.
- Great care must be taken to reduce the risk of contracting minor infections and major diseases.
- Disoriented, irritable, or uncooperative patients may be emotionally demanding. Despite the heavy workload, many direct care workers gain satisfaction from assisting those in need.

### Employment

- Direct care workers held about 2,138,700 jobs in 2004 in the United States and approximately 100,100 jobs in Pennsylvania.
- Most worked in nursing homes, personal care facilities and hospitals.
- The following table includes the industries that employed the most direct care workers in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Nursing Care Facilities	27,290	27.3%
General Medical & Surgical Hospitals	16,780	16.8%
Community Care Facility for the Elderly	12,120	12.1%
Residential Mental Health Facilities	9,170	9.2%
Home Health Care Services	8,350	8.3%

### Job Outlook

- Employment of direct care workers in Pennsylvania is expected to grow from approximately 100,100 in 2004 to approximately 117,260 in 2014. Direct care workers can expect about 1,717 openings due to growth and about 1,312 replacement openings for approximately 3,029 total annual openings.
- Numerous employment opportunities will arise for direct care workers from a combination of fast growth and high turnover.

- An aging population, cost-cutting efforts, and technological improvements will all contribute to an increased demand for home health aides. In addition, many people have realized that treatment can be more effective in familiar surroundings.
- Although psychiatric aides will find fewer employment opportunities in hospitals, there will be ample employment growth in outpatient community mental health centers.
- Technological advances will increase the need for long-term health care. As a result, nursing and personal care facilities are expected to grow rapidly and provide many jobs for nursing aides.

### **Earnings**

- The following table includes the average annual, entry level, and experienced level wages in 2005 for direct care workers in Pennsylvania.

Occupational Title	Average Annual Wage	Entry Level Wage	Experienced Level Wage
Home Health Aides	\$19,060	\$14,800	\$21,190
Nursing Aides, Orderlies & Attendants	\$22,980	\$18,480	\$25,220
Psychiatric Aides	\$28,060	\$19,310	\$32,430

### **Training, Other Qualifications and Advancement**

Entry-level direct care positions do not usually require a high school diploma or previous work experience. In fact, most employers offer classroom instruction or on-the-job training.

Nursing homes often hire inexperienced workers who must complete 75 hours of training and pass a competency evaluation period within the first four months of their employment. Those who complete this program are placed on the state registry of nursing aides. Training is also offered in high schools, vocational-technical schools, and community colleges. On occasion, direct care workers attend lectures, workshops, and in-service training sessions.

Employers who receive reimbursement from Medicare must follow strict guidelines. The home health aides they employ must undergo classroom instruction as well as supervised, practical training. After completing their training program, these home health aides must pass a competency test that covers 12 different areas.

Aspiring direct care workers should have a desire to help people. They should be healthy, tactful, patient, understanding, emotionally stable, and dependable. Direct care workers must have good communication skills and be willing to perform repetitive, routine tasks.

These occupations offer individuals an entry into the world of work. The flexibility of night and weekend hours allows high school and college students a chance to work during the school year. Experience as a nursing, psychiatric, or home health aide can help individuals decide whether or not to pursue a career in the health field. However, without additional training, opportunities for advancement are very limited.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of direct care workers include medical assistants, personal and home care aides, child-care workers, occupational therapist aides, and physical therapy aides.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- National Association for Home Care, 228 7<sup>th</sup> St. SE, Washington, DC 20003. Internet: <http://www.nahc.org>

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## Occupational Therapist Assistants & Aides

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SOC CODES: 31-2011 and 31-2012

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### Significant Points

- An aging population and medical advances will create employment growth.
- Occupational therapist assistants must be licensed.

### Nature of the Work

- Occupational therapist assistants and aides provide rehabilitative services to persons with mental, physical, emotional, or developmental impairments. Their ultimate goal is to improve clients' quality of life.  
*Occupational therapist assistants* help clients with rehabilitative activities as outlined in their treatment plan. They monitor activities to make sure they are performed correctly and to provide encouragement.  
*Occupational therapist aides* prepare materials and assemble equipment used during treatment. They are also responsible for a range of clerical tasks.
- All occupational therapist assistants and aides work under the direct supervision of an occupation therapist.

### Working Conditions

- Occupational therapist assistants and aides usually work during the day. Occasional evening and weekend hours may be required to accommodate a client's schedule.
- Because they spend long periods of time on their feet and may have to move clients or equipment, occupational therapist assistants and aides should be in good physical condition.

### Employment

- Occupational therapist assistants and aides held about 26,700 jobs in 2004 in the United States and approximately 2,040 jobs in Pennsylvania.
- About 55 percent worked in hospitals or occupational therapists' offices. Others worked in personal care facilities, nursing homes and residential care facilities.
- The following table includes the industries that employed the most occupational therapist assistants and aides in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Hospitals	574	28.1%
Offices of Other Health Practitioners	539	26.4%
Nursing Care Facilities	243	11.9%
Vocational Rehabilitation Services	193	9.5%

### Job Outlook

- Employment of occupational therapist assistants and aides in Pennsylvania is expected to grow from approximately 2,040 in 2004 to approximately 2,410 in 2014. These workers can expect about 36 openings due to growth and about 25 replacement openings for approximately 61 total annual openings.
- Employment growth will result from an aging population and advances in medicine. Concerns over the cost of therapy will slightly limit any occupational growth.
- To reduce the costs of therapy, therapists are expected to delegate more of their work to assistants and aides.

### Earnings

- Average annual earnings of occupational therapist assistants in Pennsylvania were \$39,160 in 2005. The entry-level wage for an occupational therapist assistant in 2005 was \$29,410 while an experienced occupational therapist assistant made \$44,040.
- Average annual earnings of occupational therapist aides in Pennsylvania were \$28,910 in 2005. The entry-level wage for an occupational therapist aide in 2005 was \$19,040 while an experienced occupational therapist aide made \$33,840.



### **Training, Other Qualifications and Advancement**

To work in Pennsylvania, occupational therapist assistants must complete an accredited training program and obtain a license. Accredited training programs, offered by community colleges and technical schools, combine classroom instruction with supervised fieldwork. Applicants with volunteer experience in the healthcare field and previous course work in biology and health may have an advantage. Graduates of an accredited training program who pass the national certification examination are awarded the title of certified occupational therapist assistant.

Unlike occupational therapist assistants, most occupational therapist aides receive on-the-job training. Qualified applicants must have a high school diploma and strong interpersonal skills. Applicants with previous volunteer experience are usually more appealing to employers.

Occupational therapist assistants and aides should be caring and have a desire to help people. They must be responsible, patient, and able to work as part of a team.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of occupational therapist assistants and aides include dental assistants, medical assistants, pharmacy assistants, physical therapist assistants, and physical therapist aides.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- The American Occupational Therapy Association, 4720 Montgomery Lane, PO Box 31220, Bethesda, MD 20824-1220. Internet: <http://www.aota.org>

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## Occupational Therapists

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SOC CODE: 29-1122

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### Significant Points

- Entry-level therapists must have a bachelor's degree and be licensed to practice in Pennsylvania.
- Hospitals employed the most occupational therapists.
- An expanding school-age population will result in employment growth within school systems.

### Nature of the Work

- *Occupational therapists* help clients improve their ability to perform tasks in their daily living and working environments. Their goal is to help clients have independent and satisfying lives.
- Physical exercises are used to increase strength and dexterity. Paper and pencil exercises are chosen to improve visual acuity.
- For those with permanent functional disabilities, occupational therapists instruct clients in the use of adaptive equipment such as wheelchairs.
- Some work exclusively with a particular age group. Others concentrate on individuals with particular disabilities or disorders.
- Accurate recording of a client's activities and progress is essential for evaluating the progress of clients.

### Working Conditions

- Occupational therapists usually work a 40-hour week. However, part-time work is also quite common.
- Back strain and fatigue often result from lifting and moving clients and equipment.
- To moderate therapy costs, therapy assistants and aides are encouraged to take on more responsibilities.

### Employment

- Occupational therapists held about 92,100 jobs in 2004 in the United States and approximately 4,400 jobs in Pennsylvania.
- Almost half were employed in hospitals and occupational therapy offices. Other major employers include clinics, home health agencies, residential care facilities, and nursing homes.
- The following table includes the industries that employed the most occupational therapists in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
General Medical & Surgical Hospitals	1,150	26.1%
Offices of Other Health Practitioners	710	16.1%
Other Hospitals	430	9.7%
Elementary & Secondary Schools	360	8.1%
Nursing Care Facilities	320	7.3%

### Job Outlook

- Employment of occupational therapists in Pennsylvania is expected to grow from approximately 4,400 in 2004 to approximately 5,100 in 2014. Occupational therapists can expect about 70 openings due to growth and about 59 replacement openings for approximately 129 total annual openings.
- The demand for occupational therapists should continue to rise as a result of the growing number of individuals with disabilities or limited functions. The aging baby-boomer generation and rapidly growing elderly population will also demand additional therapeutic services.
- Hospitals continue to employ a large number of occupational therapists. However, an expanding school-age population will stimulate employment growth within school systems.

### **Earnings**

Average annual earnings of occupational therapists in Pennsylvania were \$59,260 in 2005. The entry-level wage for an occupational therapist in 2005 was \$42,600 while an experienced occupational therapist made \$67,590.

### **Training, Other Qualifications and Advancement**

A bachelor's degree in occupational therapy is the minimum requirement for entry-level positions. In addition, Pennsylvania requires that all occupational therapists be licensed. To obtain a license, graduates of an accredited educational program must pass a national certification examination. Those who pass the test are awarded the title of registered occupational therapist.

Many schools offer full-time programs in occupational therapy, although a growing number also offer weekend and part-time programs. Coursework often includes physical, biological, and behavioral sciences. At least six months of supervised fieldwork is also required.

Aspiring occupational therapists need patience and strong interpersonal skills. Ingenuity and the ability to adapt activities to an individual's needs are essential qualities. Previous courses in biology, chemistry, physics, health, art, and the social sciences provide a strong background. College admissions offices favor those with previous experience in the health care field.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of occupational therapists include respiratory therapists, physical therapists, chiropractors, speech-language pathologists and audiologists, rehabilitation counselors, and recreational therapists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- The American Occupational Therapy Association, 4720 Montgomery Lane, PO Box 31220, Bethesda, MD 20824-1220. Internet: <http://www.aota.org>

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## Ophthalmic Laboratory Technicians

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SOC CODE: 51-9083

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### Significant Points

- Most learn their skills through on-the-job training.
- Technicians have limited contact with the public.
- More than half worked for manufacturing companies.

### Nature of the Work

- *Ophthalmic laboratory technicians*, also known as manufacturing opticians, optical mechanics, or optical goods workers, are responsible for cutting, grinding, edging, and finishing eyeglass lenses according to provided specifications. In addition, some technicians manufacture lenses used in optical instruments, such as telescopes and binoculars. They also inspect the final product for quality and accuracy.
- Duties can vary depending on the size of the company. In small laboratories, technicians often handle every phase of the operation. However, in larger laboratories, much of the process has been automated and technicians are responsible for operating the computerized equipment.

### Working Conditions

- Most ophthalmic laboratory technicians work a 40-hour week, including evening and weekend shifts. Overtime work may be required occasionally. Part-time work is also quite common.
- Technicians have limited contact with the public. They spend time working in quiet, well-lit laboratories.
- Precautions must be taken to reduce the injury risks associated with cutting glass, handling chemicals, and working near machinery.

### Employment

- Ophthalmic laboratory technicians held about 25,200 jobs in 2004 in the United States and approximately 1,160 jobs in Pennsylvania.
- Manufacturers of medical equipment and supplies employed 52 percent of all ophthalmic laboratory technicians. Another 21 percent worked in physician offices.
- The following table includes the industries that employed the most ophthalmic laboratory technicians in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Medical Equipment & Supplies Mfg	600	52.0%
Offices of Physicians	250	21.6%
Health & Personal Care Stores	240	20.3%

### Job Outlook

- Employment of ophthalmic laboratory technicians in Pennsylvania is expected to grow from approximately 1,160 in 2004 to approximately 1,230 in 2014. Ophthalmic laboratory technicians can expect about 7 openings due to growth and about 26 replacement openings for approximately 33 total annual openings.
- As the population grows and people live longer, additional vision care will be needed. This will increase the demand for ophthalmic laboratory technicians. In addition, new technologies and the increasing variety of frame styles and colors should also stimulate demand.
- Employment levels will increase slowly because the occupation is small and many firms are opting to invest in machinery that will automate many processes.

### Earnings

Average hourly earnings of ophthalmic laboratory technicians in Pennsylvania were \$11.60 in 2005. The entry-level rate for an ophthalmic laboratory technician in 2005 was \$8.00 while an experienced technician made \$13.40.

### **Training, Other Qualifications and Advancement**

Although most ophthalmic laboratory technicians receive on-the-job training, some learn their skills in the Armed Forces. Others attend formal training programs, offered by vocational-technical or trade schools, which vary in length from six to 12 months. Students receive certificates or diplomas upon graduation.

Ophthalmic laboratory technician trainees that produce lenses by hand, begin with tasks such as marking or blocking lenses for grinding. With experience, they advance to lens grinding, cutting, and edging. They also learn how to assemble eyeglasses. For technicians in larger laboratories, where automated machinery is used, computer skills are invaluable. Depending on individual's aptitude, on-the-job training programs may take up to six months.

When filling trainee positions, employers prefer to hire high school graduates. Those with previous courses in science, mathematics, and computers may have an advantage. Most successful technicians are precise and have a lot of manual dexterity.

Advancement opportunities are somewhat limited for ophthalmic laboratory technicians. They may become supervisors or managers. With additional education and training, some become dispensing opticians.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of ophthalmic laboratory technicians include dental laboratory technicians, orthotics technicians, prosthetics technicians, and instrument repairers.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- Commission on Opticianry Accreditation, P.O. Box 3073, Merrifield, VA 22116-3073.  
Internet: <http://www.coaccreditation.com>

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## Opticians, Dispensing

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SOC CODE: 29-2081

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### Significant Points

- Employers generally hire individuals with no background in opticianry.
- Part-time work is common.

### Nature of Work

- *Dispensing opticians* use ophthalmologist or optometrist prescriptions to fit customers with eyeglasses and contact lenses. They provide instruction about adapting to, wearing, or caring for eyeglasses and contacts. Based on customer requirements, opticians make recommendations about frames, lenses, and lens coatings.
- Although some dispensing opticians grind and insert lenses into frames themselves, this function is usually left to ophthalmic laboratory technicians. Most opticians simply reshape or bend pre-assembled frames so that they fit the customer properly and comfortably. Some also fix, adjust, and refit broken frames.
- Administrative duties include tracking inventory, recording sales, and keeping accurate customer records.

### Working Conditions

- Most dispensing opticians work a 40-hour week. Those employed in retail stores may work evening and weekend shifts. Part-time work is also quite common.
- Opticians spend most of their time on their feet working in well-lit, well-ventilated environments. They may focus on one customer at a time or work with several at once.
- Those who actually prepare lenses must take precautions against the hazards associated with glass cutting, chemicals, and machinery.

### Employment

- Dispensing opticians held about 66,000 jobs in 2004 in the United States and approximately 2,730 jobs in Pennsylvania.
- Almost 44 percent worked in health and personal care stores. Others worked for other health care practitioners and physicians.
- The following table includes the industries that employed the most dispensing opticians in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Health and Personal Care Stores	1,200	43.8%
Offices of Other Health Practitioners	620	22.5%
Offices of Physicians	340	12.3%
Retail Optical Stores	240	8.8%
Department Stores	170	6.2%

### Job Outlook

- Employment of dispensing opticians in Pennsylvania is expected to grow from approximately 2,730 in 2004 to approximately 2,950 in 2014. Dispensing opticians can expect about 22 openings due to growth and about 48 replacement openings for approximately 70 total annual openings.
- Dispensing opticians will be in demand as the population gets older and requires additional vision care. Job growth will also be stimulated as new technologies improve the quality and look of corrective lenses. However, the total number of job openings will be relatively small because the occupation is small.
- Changes in the business cycle can affect eyewear purchases and therefore, employment of dispensing opticians.

### Earnings

Average annual earnings of dispensing opticians in Pennsylvania were \$27,870 in 2005. The entry-level wage for a dispensing optician in 2005 was \$18,450 while an experienced dispensing optician made \$32,580.

### **Training, Other Qualifications and Advancement**

Employers generally hire individuals with no previous background in opticianry. However, some employers prefer applicants with post-secondary training or those who have been working as ophthalmic laboratory technicians.

Newly hired opticians work under the close supervision of an experienced optician, optometrist or ophthalmologist. While large employers usually offer structured apprenticeship programs, small companies provide informal, on-the-job training. Regardless of company size, apprentices work directly with customers, fitting eyeglasses and contact lenses.

Accredited opticianry training programs, offered mostly in community colleges, award a two-year associate degree in ophthalmic dispensing or optometric technology. Graduates of these post-secondary programs or apprentices with at least two years of experience may apply for certification. This certification must be renewed every three years.

Because opticians deal directly with the public, they should be tactful and pleasant. Strong communication skills, manual dexterity, and the ability to do precision work are essential traits. Knowledge of physics, basic anatomy, algebra, geometry, and mechanical drawing is particularly valuable.

Experienced dispensing opticians may advance to manager positions within retail stores. Some take sales positions with wholesalers and manufacturers of eyeglasses or lenses. Others choose to open their own stores.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of dispensing opticians include jewelers, locksmiths, ophthalmic laboratory technicians, orthodontic technicians, dental laboratory technicians, prosthetics technicians, camera repairers, and watch repairers.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- Opticians Association of America, 12100 Sunset Hills Rd., Suite 130, Reston, VA 20190.  
Internet: <http://www.oaa.org>
- National Academy of Opticianry, 8401 Corporate Dr., Suite 605, Landover, MD 20785.  
Internet: <http://www.nao.org>
- American Board of Opticianry/National Contact Lens Examiners, 6506 Loisdale Rd, Suite 209, Springfield, VA 22150. Internet: <http://www.abo.org>
- Commission on Opticianry Accreditation, P.O. Box 3073, Merrifield, VA 22116-3073.  
Internet: <http://www.coaccreditation.com>

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## Optometrists

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SOC CODE: 29-1041

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### Significant Points

- All optometrists in Pennsylvania must be licensed.
- Demand for vision care should continue to grow.
- Over 22 percent were self-employed.

### Nature of the Work

- *Optometrists*, or Doctors of Optometry, examine people's eyes to diagnose vision problems and eye diseases. They also prescribe eyeglasses, contact lenses, and drugs to treat eye diseases. In addition, most optometrists provide pre- and post-operative care to cataract, laser vision correction, and other eye surgery patients.
- Most are in general practice. Some specialize in contact lenses, sports vision, or vision therapy. Others develop ways to protect workers' eyes from on-the-job strain or injury. A few teach optometry or perform research.
- Self-employed optometrists oversee a variety of administrative tasks as well as providing optical care.

### Working Conditions

- Optometrists usually work about 40 hours per week. Evening and weekend work may be necessary.
- Emergency calls, once uncommon, have increased with the passage of new drug laws allowing optometrists to prescribe additional medications.
- Most optometrists have their own offices, which are clean, well-lit, and comfortable.

### Employment

- Optometrists held about 33,500 jobs in 2004 in the United States and approximately 1,270 jobs in Pennsylvania.
- Over 40 percent worked in optometrist offices. Others worked in physician offices and retail optical stores. About one in four were self-employed.
- The following table includes the industries that employed the most optometrists in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Offices of Other Health Practitioners	530	41.4%
Offices of Physicians	360	28.1%
Self-Employed	280	22.1%
Health and Personal Care Stores	60	4.6%

### Job Outlook

- Employment of optometrists in Pennsylvania is expected to grow from approximately 1,270 in 2004 to approximately 1,430 in 2014. Optometrists can expect about 15 openings due to growth and about 35 replacement openings for approximately 50 total annual openings.
- Demand for vision care should continue to grow. More optometrists will be needed to treat computer-related vision problems. Likewise, an aging population will require more optometric services due to their increased chance of cataracts, glaucoma, diabetes, and hypertension.
- Productivity gains from new equipment and procedures, as well as the increased use of support personnel, will allow each optometrist to see more patients. However, increased productivity will dampen employment growth.

### Earnings

- Average annual earnings of optometrists in Pennsylvania were \$81,210 in 2005. The entry-level wage for an optometrist in 2005 was \$39,870 while an experienced optometrist made \$101,880.
- Although earnings are relatively low in the beginning, self-employed optometrists usually earn more than salaried optometrists.



### **Training, Other Qualifications and Advancement**

All optometrists in Pennsylvania must be licensed. After obtaining a Doctor of Optometry (D.O.) degree from an accredited optometry school, graduates who pass the written and clinical board examinations become licensed optometrists. Candidates may fulfill the written part of the test by passing the National Board of Examiners in Optometry. Licenses are renewed every one to three years and continuing education credits are required.

Competition for admission to optometry schools is keen. Most schools require three years of college-level pre-optometric education. However, most applicants have a bachelor's degree or higher. Optometry school applicants must take the Optometry Admissions Test, which measures academic ability and scientific comprehension.

Business skills, self-discipline, and the ability to deal tactfully with patients are important to an optometrist's skills. Attention to detail and good manual dexterity are also required.

Continuing education is common. One-year postgraduate clinical residency programs are available for those who wish to specialize in family practice optometry, pediatric optometry, geriatric optometry, vision therapy, contact lenses, hospital based optometry, primary care optometry, or ocular disease. Optometrists wishing to teach or do research often obtain a master's or Ph.D. degree.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of optometrists include chiropractors, dentists, physicians, podiatrists, veterinarians, and speech-language pathologists and audiologists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Optometric Association, 243 N Lindbergh Blvd., St. Louis, MO 63141.  
Internet: <http://www.aoanet.org>
- Association of Schools and Colleges of Optometry, 6110 Executive Blvd., Suite 510, Rockville, MD 20852.  
Internet: <http://www.opted.org>

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## Personal & Home Care Aides

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SOC CODES: 39-9021

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### Significant Points

- Those with previous experience or training should have excellent job prospects.
- Most learn their skills through on-the-job training.
- Voluntary certification is available.

### Nature of the Work

- Personal and home care aides help elderly, disabled, and ill people live in their own homes instead of a health facility. They provide routine housekeeping and personal care services.
- In addition to providing instruction and psychological support, many personal and home care aides keep records of the services performed and of clients' progress.

### Working Conditions

- Many personal and home care aides work part-time. Weekend hours are quite common.
- Daily routines may vary. Some go to the same home every day, while others visit many clients. Surroundings differ from clean and pleasant to untidy and depressing.
- Great care must be taken to reduce the risk of injuries from overexertion and falls.
- Personal and home care aides generally work on their own, with periodic visits by their supervisor.

### Employment

- Personal and home care aides held about 701,200 jobs in 2004 in the United States and approximately 30,040 jobs in Pennsylvania.
- About 27 percent were employed in private households. Others worked for residential care facilities, nursing homes, and personal care facilities.
- The following table includes the industries that employed the most personal and home care aides in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Private Households	8,010	26.7%
Community Care Facility for the Elderly	5,260	17.5%
Residential Mental Health Facilities	4,050	13.5%
Individual & Family Services	3,210	10.7%
Home Health Care Services	2,760	9.2%
Nursing Care Facilities	2,510	8.4%

### Job Outlook

- Employment of personal and home care aides in Pennsylvania is expected to grow from approximately 30,040 in 2004 to approximately 37,490 in 2014. Personal and home care aides can expect about 745 openings due to growth and about 481 replacement openings for approximately 1,226 total annual openings.
- An aging population, cost-cutting efforts, and technological improvements will all contribute to an increased demand for personal and home care aides. In addition, many people have realized that treatment can be more effective in familiar surroundings.
- People who are interested in this work, particularly those with previous experience or training, should have excellent job prospects.

### Earnings

- Average hourly earnings of personal and home care aides in Pennsylvania were \$9.01 in 2005. The entry-level rate for a personal care aide in 2005 was \$7.17 while an experienced personal care aide made \$9.92.

- Personal and home care aides are normally paid for the time worked in the home and not the travel time between jobs. Most employers provide no benefits.

### **Training, Other Qualifications and Advancement**

Although some personal and home care aides attend formal training programs, most learn their skills through on-the-job training. Voluntary certification is available from the National Association for Home Care.

Successful personal and home care aides must have a desire to help people and should not mind hard work. They should be responsible, cheerful, and emotionally stable. Because they work in private homes, these aides should be honest and discreet. In some cases, an employer may require applicants undergo a physical examination before they are hired.

Advancement opportunities are limited. Experienced personal and home care aides are assigned more complicated duties.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of personal and home care aides include child-care workers, nursing aides, occupational therapist aides, physical therapist aides, and psychiatric aides.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- National Association for Home Care, 228 7<sup>th</sup> St. SE, Washington, DC 20003. Internet: <http://www.nahc.org>

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## Pharmacists

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SOC CODE: 29-1051

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### Significant Points

- Opportunities will be best in long-term care settings.
- All pharmacists in Pennsylvania must be licensed.
- Drug stores and hospital pharmacies employed over two-thirds of all pharmacists.

### Nature of the Work

- **Pharmacists** dispense drugs, as prescribed by health practitioners, and provide information about their use. They also advise health practitioners on the selection, dosages, interactions, and side effects of medications.
- Compounding, or the actual mixing of ingredients to form medications, is only a small part of a pharmacist's practice. Other duties will vary depending on the type of employer.
  - **Community or retail pharmacists** counsel patients and answer questions about prescription and over-the-counter drugs. They may give advice about durable medical equipment and home health care supplies.
  - **Hospital pharmacists** dispense medications and advise the medical staff on the selection of drugs. They may also assess, plan, and monitor drug regimens.
  - **Home health care pharmacists** monitor drug therapy and prepare medications for use in the home.
- Some pharmacists specialize in specific drug therapy areas, such as psychiatric disorders, intravenous nutrition support, oncology, nuclear pharmacy, and pharmacotherapy.

### Working Conditions

- Most pharmacists work a standard 40-hour week. Evening, weekend, and holiday shifts may be required in pharmacies that are open extended hours. Part-time work is also quite common.
- Pharmacists spend most of the workday on their feet. They usually work in clean, well-lit areas.
- Consultant pharmacists may have to travel in order to monitor patient's drug therapy.
- Gloves, masks, and other protective equipment are worn when working with sterile or dangerous products.

### Employment

- Pharmacists held about 230,000 jobs in 2004 in the United States and approximately 10,160 jobs in Pennsylvania.
- Over 53 percent worked in drug stores. Another 24 percent worked in hospital pharmacies.

### Job Outlook

- Employment of pharmacists in Pennsylvania is expected to grow from approximately 10,160 in 2004 to approximately 11,730 in 2014. Pharmacists can expect about 157 openings due to growth and about 197 replacement openings for approximately 354 total annual openings.
- Despite increased pharmaceutical needs, employment growth is expected to be slow in community and hospital pharmacies. Faster growth is expected in research, disease management, and pharmacoeconomics.
- Opportunities will be best in long-term home care settings. New opportunities are emerging in managed care organizations, where pharmacists analyze trends in medication use.

### Earnings

Average annual earnings of pharmacists in Pennsylvania were \$81,250 in 2005. The entry-level wage for a pharmacist in 2005 was \$64,950 while an experienced pharmacist made \$89,390.

### Training, Other Qualifications and Advancement

All pharmacists in Pennsylvania must be licensed. To obtain a license, graduates of an accredited college of pharmacy must complete an internship under a licensed pharmacist and pass a State examination. Continuing education may be required for license renewal.

Nearly all pharmacy programs require 6 years of post-secondary study and confer a Doctor of Pharmacy degree (Pharm.D.). Although Bachelor of Science (B.S.) programs are being phased out by 2005, a small number of schools currently award this degree. Either degree fulfills the licensure requirements.

Admission requirements vary from school to school. Although a few colleges of pharmacy admit high school students, most require one or two years of college-level pre-pharmacy education. Other entry requirements

include coursework in mathematics, chemistry, biology, physics, humanities, and social sciences. Some colleges of pharmacy also require applicants to submit their scores from the Pharmacy College Admission Test.

Some pharmacy graduates pursue an advanced degree in pharmaceutical chemistry, pharmacology, or pharmacy administration. Other graduates complete residency programs or fellowships, which are designed for those who plan to work in research laboratories.

Aspiring pharmacists need scientific aptitude, good communication skills, and a strong desire to help others. Because their decisions can affect human lives, pharmacists should also be conscientious. Experienced pharmacists with these skills may advance into administrative or managerial positions. Others move into marketing, sales, research, quality control, production, or packaging. Some own their own pharmacy.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of pharmacists include biological technicians, medical scientists, pharmaceutical chemists, and material scientists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Association of Colleges of Pharmacy, 1426 Prince St., Alexandria, VA 22314.  
Internet: <http://www.aacp.org>
- American Pharmaceutical Association, 2215 Constitution Ave. NW, Washington, DC 20037-2985.  
Internet: <http://www.aphanet.org>
- National Association of Chain Drug Stores, 413 N. Lee St., PO Box 1417-D49, Alexandria, VA 22313-1480.  
Internet: [www.nacds.org](http://www.nacds.org)

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## Pharmacy Aides

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SOC CODE: 31-9095

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### Significant Points

- Employment opportunities will be best for those with previous experience.
- Part-time work is common.
- Nearly 70 percent worked in drug stores.

### Nature of the Work

*Pharmacy aides* help licensed pharmacists provide medication and other health care products to patients. They answer telephones, handle money, stock shelves, and perform other clerical duties.

### Working Conditions

- Pharmacy aides work the same hours as pharmacists. This may include evenings, weekends, and holidays. There are many part-time opportunities as well.
- Working environments are generally clean, organized, and well-lit. Most of the workday is spent standing and lifting heavy boxes. Stepladders may be used to retrieve supplies from higher shelves.

### Employment

- Pharmacy aides held about 50,040 jobs in 2004 in the United States and approximately 2,780 jobs in Pennsylvania.
- Almost 70 percent worked in drug stores. Another 20 percent were employed in hospital pharmacies and by pharmaceutical wholesalers.

### Job Outlook

- Employment of pharmacy aides in Pennsylvania is expected to grow from approximately 2,780 in 2004 to approximately 3,140 in 2014. Pharmacy aides can expect about 36 openings due to growth and about 51 replacement openings for approximately 87 total annual openings.
- Job prospects for full and part-time work should be good. Those with previous experience will have the best opportunities.
- The medication needs of an aging population and cost-reducing efforts will encourage the use of pharmacy aides for routine tasks previously performed by pharmacists.

### Earnings

Average hourly earnings of pharmacy aides in Pennsylvania were \$8.30 in 2005. The entry-level rate for a pharmacy aide in 2005 was \$5.88 while an experienced pharmacy aide made \$9.50.

### Training, Other Qualifications and Advancement

Almost all pharmacy aides are trained on-the-job, but employers favor those with at least a high school diploma. Under the instruction of an experienced worker, they become familiar with the store's equipment, policies, and procedures. Experienced pharmacy aides receive very little additional training, unless new equipment is introduced or procedures change.

Pharmacy aides need good basic mathematics skills and good manual dexterity. Because they deal constantly with the public, pharmacy aides should be neat in appearance and able to deal tactfully with customers. Teamwork is also very important. Interested candidates cannot have prior records of drug or substance abuse. Employers may prefer to hire people with experience typing, handling money, and operating computers. Advancement is usually limited, but some aides may decide to become a pharmacy technician or enroll in pharmacy school to become a pharmacist.

### Related Occupations

Workers in other occupations with responsibilities and duties related to those of pharmacy aides include pharmacy technicians, licensed practical nurses, occupational therapy assistants and aides, physical therapist assistants and aides, dental assistants, health information technicians, medical secretaries, medical transcriptionists, and surgical technologists.

#### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Society of Health-System Pharmacists, 7272 Wisconsin Ave., Bethesda, MD 20814.  
Internet: <http://www.ashp.org>
- National Association of Chain Drug Stores, 413 N. Lee St., P.O. Box 1417-D49, Alexandria, VA 22313-1480.  
Internet: [www.nacds.org](http://www.nacds.org)

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## Pharmacy Technicians

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SOC CODE: 29-2052

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### Significant Points

- Employment opportunities will be best for those with formal training or previous experience.
- Voluntary certification is available.
- Part-time work is common.

### Nature of the Work

- *Pharmacy technicians* help licensed pharmacists provide medication and other health care products to patients. They perform routine tasks to help prepare prescribed medication for patients. The pharmacist must check every prescription before it can be given to a patient.
- Technicians prepare prescriptions by retrieving, counting, pouring, weighing, measuring, and sometimes mixing medications. After labeling, pricing, and filing the prescription, pharmacy technicians update patient profiles, prepare insurance forms, and inventory medications.
- In addition to regular duties, technicians working in hospitals read patient charts and deliver medicine. They also assemble a 24-hour supply of medicine for every patient.

### Working Conditions

- Pharmacy technicians work the same hours as pharmacists. This may include evenings, weekends, and holidays. There are many part-time opportunities as well.
- Working environments are generally clean, organized, and well-lit. Most of the workday is spent standing and lifting heavy boxes. Stepladders may be used to retrieve supplies from higher shelves.

### Employment

- Pharmacy technicians held about 258,200 jobs in 2004 in the United States and approximately 9,940 jobs in Pennsylvania.
- About 58 percent worked in drug stores. A small number worked in hospital pharmacies.

### Job Outlook

- Employment of pharmacy technicians in Pennsylvania is expected to grow from approximately 9,940 in 2004 to approximately 11,670 in 2014. Pharmacy technicians can expect about 173 openings due to growth and about 130 replacement openings for approximately 303 total annual openings.
- Job prospects for full and part-time work should be good. Those with formal training or previous experience will have the best opportunities.
- The medication needs of an aging population and cost-reducing efforts will encourage the use of pharmacy technicians for routine tasks previously performed by pharmacists. The increasing automation of the job should not necessarily reduce the need for technicians.
- Pharmacists can only supervise a limited number of technicians. An increasing demand for pharmacy technicians has encouraged an expansion of this ratio.

### Earnings

Average hourly earnings of pharmacy technicians in Pennsylvania were \$10.57 in 2005. The entry-level rate for a pharmacy technician in 2005 was \$7.43 while an experienced pharmacy technician made \$12.14.

### Training, Other Qualifications and Advancement

Although most pharmacy technicians receive on-the-job training, many employers prefer to hire those who have completed formal training programs. Formal training programs are offered in hospitals, proprietary schools, vocational-technical schools, and community colleges. They last approximately two years and combine classroom instruction with laboratory work in a variety of areas. Pharmacy technicians are required to learn medication names, actions, uses, and doses. Hands-on experience may be gained through clerkships or internships. Students who complete these programs are awarded diplomas, certificates, or associate degrees.

Employers prefer to hire technicians with strong spelling, reading, communication, and inventory skills. Those who are observant, organized, responsible, and precise will be successful. Teamwork is also very important. A background in health education, mathematics, chemistry, and English may be beneficial. Interested candidates



cannot have prior records of drug or substance abuse.

Qualified technicians who pass the national certification examination are awarded the title of Certified Pharmacy Technician. Although the certification process is voluntary, it can help technicians formalize their career and feel like part of the health care team. Certification must be renewed every two years. To be re-certified, pharmacy technicians must complete a set number of pharmacy related topics within the two-year timeframe.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of pharmacy technicians include licensed practical nurses, occupational therapy assistants and aides, physical therapist assistants and aides, dental assistants, health information technicians, medical secretaries, medical transcriptionists, and surgical technologists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- Pharmacy Technician Certification Board, 2215 Constitution Ave. NW, Washington DC 20037-2985.  
Internet: <http://www.ptcb.org>
- American Society of Health-System Pharmacists, 7272 Wisconsin Ave., Bethesda, MD 20814.  
Internet: <http://www.ashp.org>
- National Association of Chain Drug Stores, 413 N. Lee St., P.O. Box 1417-D49, Alexandria, VA 22313-1480.  
Internet: [www.nacds.org](http://www.nacds.org)

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## Physical Therapist Assistants & Aides

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SOC CODE: 31-2021 and 31-2022

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### Significant Points

- An aging population will stimulate employment growth.
- Physical therapist assistants must be licensed.
- Most worked in hospitals or physical therapist offices.

### Nature of the Work

- Physical therapist assistants and aides provide services that help improve mobility and relieve the pain for patients suffering from injuries or disease.

*Physical therapist assistants* perform a variety of therapy tasks, including exercises, massages, electrical stimulation, paraffin baths, and ultrasound. They also record the patient's responses to treatment.

*Physical therapist aides* help make therapy sessions productive. They are responsible for preparing for each patient's therapy, keeping the treatment area organized and completing some clerical work.

- All physical therapist assistants and aides work under the direct supervision of a physical therapist.

### Working Conditions

- Full and part-time work schedules are common. Some physical therapist assistants and aides work evening and weekend hours to accommodate a patient's schedule.
- Physical therapist assistants and aides spend a great deal of time kneeling, stooping, and standing. A moderate degree of strength is needed to handle the physical exertion required in assisting patients with their treatment.

### Employment

- Physical therapist assistants and aides held about 101,500 jobs in 2004 in the United States and approximately 4,250 jobs in Pennsylvania.
- Over 69 percent worked in hospitals or physical therapist offices. About 1 in 10 were employed with nursing care facilities.
- The following table includes the industries that employed the most physical therapist assistants and aides in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
General Medical and Surgical Hospitals	1,410	33.2%
Offices of Other Health Practitioners	1,020	24.0%
Other Hospitals	520	12.1%
Nursing Care Facilities	450	10.6%

### Job Outlook

- Employment of physical therapist assistants and aides in Pennsylvania is expected to grow from approximately 4,250 in 2004 to approximately 4,910 in 2014. Physical therapist assistants and aides can expect about 65 openings due to growth and about 71 replacement openings for approximately 136 total annual openings.
- The aging baby-boomer generation and rapidly growing elderly population will demand additional therapeutic services. Elderly patients often need additional assistance in their treatment, making the roles of physical therapist assistants and aides vital.
- Licensed physical therapist assistants can enhance the cost-effectiveness of physical therapy services.

### Earnings

- Average annual earnings of physical therapist assistants in Pennsylvania were \$36,590 in 2005. The entry-level wage for a physical therapist assistant in 2005 was \$27,570 while an experienced assistant made \$41,100.
- Average annual earnings of physical therapist aides in Pennsylvania were \$23,200 in 2005. The entry-level wage for a physical therapist aide in 2005 was \$17,450 while an experienced aide made \$26,070.

### **Training, Other Qualifications and Advancement**

Most physical therapist assistants earn an associate's degree from an accredited training program. Admission into these programs is very competitive. It is not unusual for colleges to have long waiting lists of prospective candidates. Accredited programs are designed to last two years and combine academic study with clinical experience. Additional requirements include certification in CPR and other first aid. After graduation, physical therapist assistants must obtain a license before they can work in Pennsylvania.

Most employers provide on-the-job training for those interested in becoming physical therapist aides. Aspiring aides should have strong interpersonal skills and a desire to help people in need. Most employers also require a high school diploma or equivalent.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of physical therapist assistants and aides include dental assistants, occupational therapist assistants and aides, medical assistants, and pharmacist technicians.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- The American Physical Therapy Association, 1111 North Fairfax St., Alexandria, VA 22314-1488. Internet: <http://www.apta.org>

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## Physical Therapists

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SOC CODE: 29-1123

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### Significant Points

- An aging population and widespread interest in health promotion will stimulate demand.
- Pennsylvania requires that all physical therapists be licensed.

### Nature of the Work

- **Physical therapists** provide services that help restore function, improve mobility, and relieve pain for those patients suffering from injuries or disease.
- After examining the patient, physical therapists develop a treatment plan that describes treatment strategy, purpose, and anticipated outcome. The ultimate goal is to improve how an individual functions at home and in the workplace.
- Treatment often includes exercises that encourage patients to use their own muscles. Electrical stimulation, hot packs, cold compresses, deep-tissue massage, and ultrasound may be used to relieve pain and reduce swelling.
- Some physical therapists specialize in areas such as pediatrics, geriatrics, orthopedics, neurology, sports medicine, and cardiopulmonary physical therapy.

### Working Conditions

- Most physical therapists work a standard 40-hour week. Some evening and weekend work may be required.
- Physical therapists often have to stoop, kneel, crouch, or stand for long periods of time. In addition, they may have to move heavy equipment and lift patients.

### Employment

- Physical therapists held about 154,500 jobs in 2004 in the United States and approximately 7,980 jobs in Pennsylvania.
- The number of jobs may be greater than the actual number of practicing physical therapists because therapists can hold two or more jobs.
- About 63 percent were employed in hospitals and physical therapy offices. Others were employed with home health agencies, nursing homes, and physician offices.
- The following table includes the industries that employed the most physical therapists in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Offices of Other Health Practitioners	2,220	27.8%
General Medical & Surgical Hospitals	2,130	26.7%
Other Hospitals	680	8.5%
Offices of Physicians	660	8.3%
Home Health Care Services	500	6.3%

### Job Outlook

- Employment of physical therapists in Pennsylvania is expected to grow from approximately 7,980 in 2004 to approximately 9,400 in 2014. Physical therapists can expect about 142 openings due to growth and about 79 replacement openings for approximately 221 total annual openings.
- The aging baby-boomer generation and rapidly growing elderly population will demand additional therapeutic services. Widespread interest in health promotion should also increase demand for physical therapists.
- In the hope of reducing work-related injuries, many employers use physical therapists to evaluate worksites, develop exercise programs, and teach safe work habits to employees.

### Earnings

Average annual earnings of physical therapists in Pennsylvania were \$65,250 in 2005. The entry-level wage for a physical therapist in 2005 was \$46,140 while an experienced physical therapist made \$74,800.

### **Training, Other Qualifications and Advancement**

Pennsylvania requires that all physical therapists be licensed. Graduates from an accredited educational program must pass a licensure examination before they can practice. Continuing education courses and workshops may be required to maintain licensure.

Many schools offer physical therapy programs at the master's degree level and above. These programs provide classroom instruction, laboratory work, and supervised clinical experience. However, competition for admission is very intense. Interested applicants should have superior grades in high school and college, especially in science courses. Most educational programs also require volunteer experience in a physical therapy department of a hospital or clinic.

Physical therapists should be compassionate and possess a desire to help patients. Strong interpersonal skills are required to successfully educate patients and their families about physical therapy treatments.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of physical therapists include occupational therapists, recreational therapists, speech-language pathologists and audiologists, rehabilitation counselors, and respiratory therapists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- The American Physical Therapy Association, 1111 North Fairfax St., Alexandria, VA 22314-1488. Internet: <http://www.apta.org>

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## Physician Assistants

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SOC CODE: 29-1071

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### Significant Points

- Physician assistants must be certified.
- A growing number of jobs will be found in institutional settings.

### Nature of the Work

- Physician assistants provide diagnostic, therapeutic, and preventive health care services, under the direct supervision of a physician. They treat minor injuries, take medical histories, examine patients, order x-rays, and interpret laboratory tests.
- Some provide care in rural or inner city clinics where a physician is only present a few days each week. Others visit patients in their homes, at the hospital, or at nursing home facilities, and report back to the physician.
- Although many physician assistants work in primary care areas of medicine, some specialize in surgery, emergency medicine, orthopedics, and geriatrics. Those specializing in surgery usually provide pre- and post-operative care and may assist during major surgery.

### Working Conditions

- Most physician assistants work a 40-hour week. Those working in physicians' offices are usually on-call and may have to work weekend, night, or early morning shifts.
- Physician assistants usually work in a comfortable, well-lit environment. They may spend considerable time walking and standing.

### Employment

- Physician assistants held about 62,000 jobs in 2004 in the United States and approximately 2,650 jobs in Pennsylvania.
- The number of jobs may be greater because some practicing physician assistants held two or more jobs.
- About 50 percent worked in physician's offices and clinics. Another 23 percent were employed by hospitals.

### Job Outlook

- Employment of physician assistants in Pennsylvania is expected to grow from approximately 2,650 in 2004 to approximately 3,360 in 2014. Physician assistants can expect about 72 openings due to growth and about 41 replacement openings for approximately 113 total annual openings.
- Employment opportunities should be good in areas or settings that have difficulty attracting physicians.
- Physician assistants can expect to find a growing number of jobs in institutional settings such as hospitals, academic medical centers, public clinics, and prisons.
- Limitations on the number of hours worked by physician residents are common and encourage hospitals to use physician assistants for routine duties and procedures.

### Earnings

Average annual earnings of physician assistants in Pennsylvania were \$57,770 in 2005. The entry-level wage for a physician assistant in 2005 was \$37,160 while an experienced physician assistant made \$68,070.

### Training, Other Qualifications and Advancement

Physician assistants must complete an accredited education program and be certified to practice in Pennsylvania. Accredited programs usually last two years and combine classroom instruction with supervised clinical training. As a result of their clinical rotations, some physician assistants obtain permanent employment with their supervising physician upon graduation.

Although most programs only require two years of college, many applicants hold a bachelor's or master's degree. Work experience in the health care field is also desired. In fact, many aspiring physician assistants are former emergency medical technicians, nurses, or other allied health professionals. Physician assistants should have strong leadership skills, self-confidence, and emotional stability. Previous courses in biology, English, chemistry, math, psychology, and social sciences provide a strong background.

Graduates are then required to pass the Physician Assistants National Certifying Examination. Only those who successfully complete this examination may use the credential "Physician Assistant-Certified (PA-C)." In order to remain certified, 100 hours of continuing medical education must be completed every two years. Physician

assistants must be re-certified every six years. They can pass a re-certification examination or complete an alternate program combining learning experience and a take-home examination.

In order to practice in a specialty area, certified physician assistants pursue additional education. Postgraduate programs are available in areas such as internal medicine, rural primary care, emergency medicine, surgery, pediatrics, neonatology, and occupational medicine.

Experienced physician assistants can advance to positions with added responsibilities and higher earnings. However, by the nature of the profession, individual physician assistants are always supervised by physicians.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of physician assistants include physical therapists, occupational therapists, and speech-language pathologists and audiologists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Academy of Physician Assistants, 950 N. Washington St., Alexandria, VA 22314-1552. Internet: <http://www.aapa.org>
- National Commission on Certification of Physician Assistants, 12000 Findley Rd., Suite 200, Duluth, GA 30097-1409. Internet: <http://www.nccpa.net>

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## Physicians & Surgeons

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SOC CODE: 29-1061, 29-1062, 29-1063, 29-1064, 29-1065, 29-1066, 29-1067 and 29-1069

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### Significant Points

- Many years of education and training are needed.
- Job prospects will be best for primary care physicians.
- About one in 10 were self-employed.

### Nature of the Work

- *Physicians and surgeons* diagnose illness, prescribe medication, and administer treatment to people who are suffering. This broad category includes anesthesiologists, family and general practitioners, internists, obstetricians and gynecologists, pediatricians, psychiatrists, and surgeons.
- There are two types of physicians: Doctor's of Medicine (M.D.) and Doctor's of Osteopathic Medicine (D.O.). Both use traditional methods of treatment, including drugs and surgery. However, Doctor's of Osteopathic Medicine place special emphasis on the musculoskeletal system, preventive medicine, and holistic patient care.
- Most physicians practice general family, internal, or pediatric medicine. They are usually the first health professionals that a patient consults. Therefore, they are commonly known as primary care physicians.
- Primary care physicians may refer patients to specialists who are experts in emergency medicine, anesthesiology, obstetrics, gynecology, psychiatry, or surgery.
- Surgeons are physicians who treat diseases, injuries, and deformities by invasive methods, such as manual manipulation or by using instruments and appliances.

### Working Conditions

- Many physicians and surgeons work long, irregular hours. However, those in group practices or health care organizations often have back-up coverage and may be able to take more time off.
- On-call physicians and surgeons deal with many patient concerns over the phone. They often make emergency visits to hospitals or nursing homes.
- Physicians and surgeons frequently travel between their office and the hospital.

### Employment

- Physicians and surgeons held about 566,500 jobs in 2004 in the United States and approximately 23,050 jobs in Pennsylvania.
- Most worked in hospitals or office-based practices, including clinics and Health Maintenance Organizations (HMOs). About one in 10 were self-employed.

### Job Outlook

- Employment of physicians and surgeons in Pennsylvania is expected to grow from approximately 23,050 in 2004 to approximately 25,730 in 2014. Physicians and surgeons can expect about 267 openings due to growth and about 309 replacement openings for approximately 576 total annual openings.
- The growing and aging population will drive overall growth in the demand for physician and surgeon services. In addition, new technologies will permit more intensive care.
- Although job prospects may be better for primary care physicians, a substantial number of jobs will also be created for specialists. Opportunities should be especially good in rural and low-income areas.
- Future physicians may work fewer hours, retire earlier, have lower earnings, and have to practice in underserved areas. They are less likely to enter a solo practice than previous physicians.

### Earnings

- In Pennsylvania, physicians and surgeons averaged \$109,000 to \$183,000 annually in 2005. Entry-level practitioners earned between \$41,000 and \$159,000, while experienced practitioners were paid more than \$142,000 per year.
- The following chart includes the average annual, entry level, and experienced level wages in 2005 for different physician and surgical specialties in Pennsylvania.



Occupational Title	Average Annual Wage	Entry Level Wage	Experienced Level Wage
Anesthesiologists	\$163,900	\$111,710	\$190,000
Family & General Practitioners	\$130,150	\$69,460	\$160,490
Internists, General	\$129,460	\$47,440	\$170,480
Obstetricians & Gynecologists	\$182,590	\$158,780	\$194,500
Pediatricians, General	\$119,280	\$68,490	\$144,680
Psychiatrists	\$123,930	\$58,120	\$156,830
Surgeons	\$161,920	\$96,880	\$194,450
Physicians & Surgeons, Other	\$109,020	\$41,680	\$142,690

### **Training, Other Qualifications and Advancement**

It takes many years of education and training to become a physician or surgeon: usually four years of undergraduate school, four years of medical school, and three to eight years of internship and residency. Many medical students must borrow money to cover this costly training.

Acceptance to medical school is very competitive. Accredited schools usually require three years of college-level pre-medical education. However, most applicants have a bachelor's degree or higher. Applicants must submit undergraduate transcripts, scores from the Medical College Admission Test (MCAT), and letters of recommendation. Many schools also consider character, personality, leadership qualities, and participation in extracurricular activities. An interview with members of the admissions committee is common.

The first two years of medical school is spent in the classroom or in the laboratory. During the final two years, students work with patients under the supervision of experienced physicians. Students gain practical experience in the diagnosis and treatment of illness through rotations in internal medicine, family practice, obstetrics, gynecology, pediatrics, psychiatry, and surgery.

Following medical school, most Doctor's of Medicine enter a residency program at a hospital. A residency is essentially a paid, on-the-job training program that provides additional education in a particular specialty. Doctor's of Osteopathic Medicine usually serve a 12-month rotating internship before entering a residency.

All physicians and surgeons in Pennsylvania must be licensed. Graduates from an accredited medical school must pass the licensing examination and complete one to seven years of graduate medical education to obtain their physicians' license. Those seeking board certification in a particular specialty must pass a final examination. Additional years of residency may be required for sub-specialty certification.

Aspiring physicians and surgeons should have a desire to serve patients. Self-motivation is required to survive the pressures and long hours of medical education and training. Physicians and surgeons must be flexible in order to respond to the changing demands of a rapidly evolving health care system. Continuing education is necessary to keep abreast of medical advances.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of physicians include chiropractors, dentists, optometrists, physician assistants, podiatrists, speech-language pathologists and audiologists, and veterinarians.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- Association of American Medical Colleges, 2450 N St. NW, Washington, DC 20037-1126. Internet: <http://www.aamc.org>
- American Association of Colleges of Osteopathic Medicine, 5550 Friendship Blvd., Suite 310, Chevy Chase, MD 20815-7231. Internet: <http://www.aacom.org>
- American Medical Association, 515 N. State St., Chicago, IL 60610. Internet: <http://www.ama-assn.org>
- American Osteopathic Association, 142 E. Ontario St., Chicago, IL 60611. Internet: <http://www.aoa-net.org>

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## Podiatrists

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SOC CODE: 29-1081

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### Significant Points

- Opportunities will be best in group medical practices, clinics, and health networks.
- Managed care organizations prefer board-certified podiatrists.
- About 1 in 6 were self-employed.

### Nature of the Work

- *Podiatrists*, or Doctors of podiatric medicine (DPMs), diagnose and treat disorders, diseases, and injuries of the foot and lower leg. Some specialize in surgery, orthopedics, primary care, or public health.
- After diagnosing a foot problem, podiatrists may prescribe drugs, order physical therapy, set fractures, or perform surgery. They may also fit corrective inserts and design custom-made shoes.
- Although more podiatrists are forming group practices, many are still self-employed. Those in private practice must oversee a variety of administrative tasks as well as performing podiatric work. In addition, some educate the community on the benefits of foot care through speaking engagements and advertising.

### Working Conditions

- Although most podiatrists set their own hours, evening and weekend work may be required. Podiatrists usually have fewer after-hours emergencies than other doctors.
- Podiatrists usually work in their own offices. They may spend time visiting patients in nursing homes or performing surgery at a hospital.

### Employment

- Podiatrists held about 10,100 jobs in 2004 in the United States and approximately 510 jobs in Pennsylvania.
- Over 70 percent worked in podiatrist and physician offices. Another 16 percent were self-employed.

### Job Outlook

- Employment of podiatrists in Pennsylvania is expected to grow from approximately 510 in 2004 to approximately 550 in 2014. Podiatrists can expect about 4 openings due to growth and about 12 replacement openings for approximately 16 total annual openings.
- Opportunities will be best for board-certified podiatrists employed by group medical practices, clinics, and health networks.
- The elderly population is more prone to foot ailments and will turn to podiatrists for foot care. Likewise, injuries sustained by active individuals of all ages will also create demand for podiatric care.
- Podiatric care is very dependent on disposable income because most health insurance policies do not cover routine foot care.

### Earnings

Average annual earnings of podiatrists in Pennsylvania were \$113,030 in 2005. The entry-level wage for a podiatrist in 2005 was \$53,670 while an experienced podiatrist made \$142,700.

### Training, Other Qualifications and Advancement

All podiatrists in Pennsylvania must be licensed. After graduating from an accredited college of podiatric medicine, aspiring podiatrists must pass written and oral examinations to qualify for a license. Candidates may fulfill the written part of the test by passing the National Podiatric Board Examination. Continuing education is required for license renewal.

Accredited colleges of podiatric medicine require a minimum of 90 semester hours of undergraduate study. However, most applicants have a bachelor's degree. Applicants must submit undergraduate transcripts, scores from the Medical College Admission Test (MCAT), and letters of recommendation. Many schools consider character, personality, leadership qualities, and participation in extracurricular activities. An interview with members of the admissions committee is common.

Colleges of podiatric medicine offer a four-year program similar to other medical schools. The first two years are spent in the classroom or laboratory. Practical experience is gained through clinical rotations in private practices, hospitals, and clinics during the third and fourth years. Graduates receive the Doctor of Podiatric Medicine (D.P.M.) degree.

Most graduates complete a hospital residency program after receiving their degree. Residents receive advanced training through clinical rotations in anesthesiology, internal medicine, pathology, radiology, emergency medicine, and orthopedic surgery. Residency programs usually last one to three years.

Managed care organizations prefer board-certified podiatrists. There are a number of certifying boards for the podiatric specialties of orthopedics, primary medicine, or surgery. Each board requires advanced training, experience as a practicing podiatrist, and completion of written and oral examinations. Board-certified podiatrists meet higher standards than those required for licensure.

Aspiring podiatrists need scientific aptitude, manual dexterity, interpersonal skills, and good business sense. Successful podiatrists may advance to professor, department chief, or general health administrator positions.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of podiatrists include chiropractors, physicians and surgeons, dentists, optometrists, and veterinarians.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Podiatric Medical Association, 9312 Old Georgetown Rd., Bethesda, MD 20814. Internet: <http://www.apma.org>
- American Association of Colleges of Podiatric Medicine, 15850 Crabbs Branch Way, Suite 320, Rockville, MD 20855. Internet: <http://www.aacpm.org>

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## Private Household Workers

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SOC CODES: 35-2013, 37-2101, 37-2102 and 39-9012

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### Significant Points

- Demand will outpace the supply of workers willing to take domestic jobs.
- Most jobs do not require any special training.
- Wages will vary with type of work, number of hours and geographic location.

### Nature of the Work

- Most private household workers are *general house workers*, whose duties include dusting, sweeping, washing dishes, and making beds. They may also feed pets, answer the telephone, buy groceries, and run other errands.
- Child-care workers are private household workers who are responsible for the educational, nutritional, and health needs of children.

*Baby-sitters* are employed on an hourly basis.

*Infant nurses* are in charge of preparing bottles and changing the diapers of infant children.

*Nannies* tend to the needs of children, from birth to age 12. They may also have general cleaning duties.

*Governesses* look after children, in addition to other household duties.

- *Companions*, or *personal attendants*, assist elderly, handicapped or convalescent people. They usually assist with personal hygiene, meal preparation, and general home cleaning. Companions may accompany their employer to medical appointments or handle their social and business affairs.
- Large households often employ cooks and caretakers. In addition, they may employ a household manager, housekeeper, or butler.

*Household managers, housekeepers, and butlers* hire, supervise, and coordinate the household staff. In addition, butlers announce guests, answer telephones, serve food, chauffeur, and act as a personal attendant.

*Cooks* prepare meals, clean the kitchen, and order groceries. They may also serve meals.

*Caretakers* do heavy housework and general home maintenance. They may also do some groundskeeping.

### Working Conditions

- Most private household workers are employed part time or work less than 35 hours per week. Some work a full day but only for two or three days a week. Others work a half-day for four or five days a week.
- Private household employees usually work in comfortable homes. Some employers may be demanding.
- Workers spend most of their day on their feet. They do a lot of walking, lifting, bending, and stooping.
- Many live in their own homes and travel to work. Others live in their employer's home, generally with their own room and bath.
- Live-in workers, who generally put in longer hours, may feel isolated from friends and family. However, they often become part of their employer's family.

### Employment

- Private household workers held approximately 15,990 jobs in Pennsylvania.
- About 54 percent were cleaners and servants. Another 28 percent were child-care workers. Housekeepers and butlers accounted for another 14 percent. The remaining four percent were cooks.
- Most jobs were found in big cities and their affluent suburbs. Others were on large estates or in resorts.

### Job Outlook

- Employment of private household workers in Pennsylvania is expected to decrease from approximately 15,990 in 2004 to approximately 15,390 in 2014. About 19 annual openings will result from replacement needs. Although no net employment growth is expected, growth openings may occur in some areas.
- Demand will increase as more women join the labor force and look for help running their households. In addition, the growing elderly population will increase the demand for companions and personal attendants.
- People who are interested in this work should have no trouble finding jobs. In fact, the demand for household help is expected to continue to outpace the supply of workers willing to take domestic jobs.

### Earnings

- Earnings of private household workers depend on the type of work, number of hours worked and geographic location of their employer. They may also depend on training and experience.

- Live-in workers often earn higher wages than day workers. Baby-sitters usually have the lowest earnings.
- Most private household workers receive very limited benefits. Day workers may get a transportation allowance and a free meal. Live-in domestics may receive free room and board, medical benefits, or vacation days.

### **Training, Other Qualifications and Advancement**

Most private household jobs do not require any special training beyond the ability to clean, cook, and tend children. Because of this, many individuals who cannot find other work often take private household jobs. Employers often provide some on-the-job training to show their employees what they want done and how to do it.

Some post-secondary schools offer programs for butlers, nannies, and governesses. These programs teach household administration, early childhood education, nutrition, child-care, and bookkeeping. Many of these schools offer certification in household management as well as job placement assistance. However, most private household workers still obtain their jobs through employment agencies and recommendations from previous employers.

Dependability and courteousness are very important traits for private household workers. They should also be able to get along well with others. Because they work in private homes, these workers must be honest and discreet. In addition, private household workers need physical stamina. Previous coursework in home economics, cooking, child development, first aid, and nursing provide strong background knowledge.

Advancement opportunities are limited. Most take the form of higher pay and improved working conditions. Some private household workers take similar positions in hotels, hospitals, and restaurants. Others transfer into better-paying, unrelated jobs. A few start companies that provide household services for a fee.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of private household workers include building custodians, hotel maids, restaurant cleaners, child-care workers, home health aides, personal care aides, cooks, kitchen workers, waiters, waitresses, and bartenders.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- International Nanny Association, 191 Clarksville Road, Princeton Junction, NJ 08550.  
Internet: <http://www.nanny.org>

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## Psychologists

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SOC CODES: 19-3031, 19-3032 and 19-3039

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### Significant Points

- A doctoral degree is usually required for employment as a clinical or counseling psychologist.
- Opportunities will be severely limited for those with only a bachelor's degree.
- About 30 percent were self-employed.

### Nature of the Work

- Psychologists study the human mind and the way people behave. They usually specialize in a particular area.
  - Clinical psychologists* help mentally and emotionally disturbed clients adjust to life. They may help patients deal with illnesses or injuries.
  - Counseling psychologists* advise people on how to deal with problems of everyday living.
  - Developmental psychologists* study the physiological, cognitive, and social development that takes place throughout life.
  - Experimental or research psychologists* study behavior processes with human beings and animals.
  - Industrial-organizational (I/O) psychologists* are interested in improving productivity and the quality of work life. They frequently act as consultants.
  - School psychologists* resolve students' learning and behavior problems.
  - Social psychologists* examine people's interactions with others and with the social environment.
- Information is sometimes gathered through controlled laboratory experiments or by administering personality, performance, aptitude, and intelligence tests. Other methods include observation, interviews, questionnaires, clinical studies, and surveys.

### Working Conditions

- Psychologists who are employed in schools and clinics generally work regular hours. Those employed in hospitals, nursing homes, and other health facilities may work evenings and weekends. Private practice psychologists usually set their own hours.
- Many psychologists experience pressures due to deadlines and tight schedules.
- Travel may be required to attend conferences or conduct research.

### Employment

- Psychologists held about 178,900 jobs in 2004 in the United States and approximately 7,270 jobs in Pennsylvania.
- About 30 percent were self-employed. Others worked in educational institutions and practitioner offices.
- The following table includes the industries that employed the most psychologists in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Self-Employed	2,170	29.9%
Elementary & Secondary Schools	1,530	21.1%
Individual & Family Services	930	12.8%
Offices of Other Health Practitioners	520	7.1%
Outpatient Care Centers	460	6.4%

### Job Outlook

- Employment of psychologists in Pennsylvania is expected to grow from approximately 7,270 in 2004 to approximately 8,240 in 2014. Psychologists can expect about 96 openings due to growth and about 159 replacement openings for approximately 255 total annual openings.
- Numerous job opportunities will arise in outpatient treatment clinics, schools, social service agencies, and management consulting services.

- Opportunities for psychologists holding a doctorate degree from a leading university should be good. Those with extensive training in quantitative research methods and computer science may have a competitive edge.
- Very few opportunities will exist for bachelor's degree holders. Although, some may find jobs as assistants in rehabilitation centers or as high school psychology teachers.

#### **Earnings**

- In Pennsylvania, psychologists averaged between \$58,000 to \$76,000 annually in 2005. Entry-level psychologists earned between \$32,000 and \$50,000, while experienced psychologists were paid anywhere from \$71,000 to \$90,000.
- The following chart includes the average annual, entry level, and experienced level wages in 2005 for psychologists in Pennsylvania.

Occupational Title	Average Annual Wage	Entry Level Wage	Experienced Level Wage
Clinical, Counseling & School Psychologists	\$58,690	\$32,790	\$71,650
Industrial-Organizational Psychologists	\$69,120	\$49,130	\$79,120
Psychologists, Other	\$75,510	\$47,340	\$89,590

#### **Training, Other Qualifications and Advancement**

A doctoral degree is usually required for employment as a clinical or counseling psychologist. Most clinical psychologists have a Doctor of Psychology (Psy.D.) degree while school psychologists usually obtain an Educational Specialist (Ed.S.) degree. Graduates with a master's degree in psychology may work as industrial-organizational psychologists or psychological assistants.

Without additional academic training, the opportunities for bachelor degree holders are severely limited. They usually assist psychologists in community mental health centers, vocational rehabilitation offices, and correctional programs. Some work as research assistants, sales trainees, or as technicians in a related field. Others work for the Federal government, although competition is intense for these jobs.

Most students earn a master's degree in psychology after two years of full-time study. Requirements usually include practical experience and a thesis based on an original research project. A doctoral degree often requires five to seven years of graduate study and culminates in a dissertation. Courses in quantitative research methods, which include the use of computer-based analysis, are an integral part of graduate study and are necessary to complete the dissertation. The competition for admission into these graduate psychology programs is keen.

In Pennsylvania, psychologists who offer patient care must be licensed or certified. Licensing laws require an advanced degree in psychology, completion of an approved internship, and some professional experience. In addition, applicants must pass the licensing examination. Continuing education is required to maintain a psychology license or certification.

Aspiring psychologists must be emotionally stable and able to deal with people. Sensitivity, compassion, and the ability to inspire others are particularly important qualities for clinical work and counseling. Research psychologists should be able to communicate effectively and work independently or as part of a team. Patience and perseverance are vital qualities for all psychologists because treatment and research may take a long time.

#### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of psychologists include social workers, physicians and surgeons, sociologists, clergy, special education teachers, and counselors.

#### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Psychological Association, 750 First St. NE, Washington, DC 20002-4242.  
Internet: <http://www.apa.org>
- National Association of School Psychologists, 4340 East West Hwy., Suite 402, Bethesda, MD 20814.  
Internet: <http://www.nasponline.org>
- Association of State and Provincial Psychology Boards, PO Box 241245, Montgomery, AL 36124-1245.  
Internet: <http://www.asppb.org>

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## Radiologic Technologists and Technicians

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SOC CODES: 29-2034

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### Significant Points

- All radiologic technologists must be licensed.
- Cross-trained workers will have the best employment opportunities.
- Over 63 percent worked in hospitals.

### Nature of the Work

- Diagnostic imaging includes all medical procedures that involve radiation, including x-rays. Occupational titles vary with the types of procedures performed.
  - *Radiographers* produce x-ray films of the human body for use in diagnosing medical problems.
  - *CT technologists* operate computerized tomography scanners to produce cross sectional views of patients.
  - *Magnetic resonance imaging (MRI) technologists* operate machines that use giant magnets and radio waves to create an image.
- Radiologic technologists and technicians must follow physicians' orders precisely and conform to safety regulations in order to protect themselves, their co-workers, and the patient from unnecessary exposure.
- In addition to preparing patients and operating equipment, some radiologic techs keep patient records, prepare work schedules, and maintain equipment.

### Working Conditions

- Most radiologic technologists and technicians work about 40 hours a week, although evening and weekend work may be required. Some are on-call in case of emergencies.
- Radiologic techs spend much of their day on their feet. They may have to lift or turn disabled patients.
- Some procedures are done at the patients' bedside, although most are done at a diagnostic machine.
- Although there is potential for radiation exposure, use of lead aprons, gloves, and other shielding devices minimize the risk. As further protection, radiologic techs wear badges that measure radiation levels.

### Employment

- Radiologic technologists and technicians held about 182,000 jobs in 2004 in the United States and approximately 9,070 jobs in Pennsylvania.
- Over 63 percent worked in hospitals. Another 18 percent worked in physician offices and clinics.
- The following table includes the industries that employed the most radiologic technologists and technicians in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
General Medical & Surgical Hospitals	5,720	63.1%
Offices of Physicians	1,600	17.6%
Medical & Diagnostic Laboratories	1,120	12.4%

### Job Outlook

- Employment of radiologic technologists and technicians in Pennsylvania is expected to grow from approximately 9,070 in 2004 to approximately 9,590 in 2014. Radiologic techs can expect about 52 openings due to growth and about 169 replacement openings for approximately 221 total annual openings.
- Opportunities are expected to be good for radiologic technologists and technicians. However, those who are familiar with more than one type of imaging technology will have the best employment opportunities.
- Hospitals will remain the principal employer of radiologic technologists and technicians. However, due to the strong shift toward outpatient care, employment is expected to grow most rapidly in diagnostic imaging centers.

### Earnings

Average annual earnings of radiologic technologists and technicians in Pennsylvania were \$43,960 in 2005.



The entry-level wage for a radiologic tech in 2005 was \$32,280 while an experienced radiologic tech made \$49,800.

### **Training, Other Qualifications and Advancement**

Radiography programs vary with the credential or degree that is awarded. Certificate programs are offered in hospitals and last one or two years. The one-year program is only available for health professionals, such as medical technologists and registered nurses, who wish to specialize in radiography. Graduates who complete a two-year program at a community college are awarded an associate's degree. Finally, colleges and universities offer a four-year bachelor's degree program. Training is also available through the Armed Forces.

All radiologic technicians in Pennsylvania must be licensed. To obtain their license, graduates of an accredited radiography program must pass an examination offered by the American Registry of Radiologic Technologists (ARRT). Most employers prefer to hire registered or certified radiographers.

Continuing education is very important in this field. In fact, radiographers must complete 24 hours of training every two years. Radiologic technologists and technicians must be able to pay attention to detail, follow instructions, and work as part of a team. They should be sensitive to patients' physical and psychological needs. Also, they should have good manual dexterity and mechanical ability so they can operate complicated equipment.

Experienced radiologic technologists and technicians may become specialists or take jobs as sales representatives. Others become instructors or directors in radiologic technology programs. An advanced degree may be required for some of these positions.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of radiologic technologists and technicians include nuclear medicine technologists, cardiovascular technologists and technicians, radiation therapists, diagnostic medical sonographers, clinical laboratory technologists and technicians, and respiratory therapists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Society of Radiologic Technologists, 15000 Central Ave. SE, Albuquerque, NM 87123-3917. Internet: <http://www.asrt.org>
- American Healthcare Radiology Administrators, 490B Boston Post Rd., Suite 101, Sudbury, MA 01776. Internet: <http://www.ahra.com>
- Joint Review Committee on Education in Radiologic Technology, 20 N. Wacker Drive, Suite 900, Chicago, IL 60606-2901. Internet: <http://www.jrcert.org>
- The American Registry of Radiologic Technologists, 1255 Northland Dr., St. Paul, MN 55120-1155. Internet: <http://www.arrt.org>

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## Recreational Therapists

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SOC CODE: 29-1125

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### Significant Points

- Opportunities should be best for those with a bachelor's degree in recreation or therapeutic recreation.
- Most employers prefer to hire certified therapeutic recreation specialists.
- One-third worked in nursing homes.

### Nature of the Work

- **Recreational therapists**, also known as therapeutic recreation specialists, provide treatment services and recreation activities to individuals with disabilities, illnesses, or other disabling conditions. They may use arts, crafts, animals, sports, games, dance, drama, and music to help individuals recover basic motor functioning abilities, build confidence, and socialize effectively to enable greater independence.
- Clients are assessed based on information from observations, medical records, medical staff, family, and the client themselves. The recreational therapist develops and carries out therapeutic interventions consistent with client needs and interests. A client's participation, reaction, and progress is observed and documented.

### Working Conditions

- Most recreational therapists work a 40-hour week. Some evening, weekend, and holiday work may be required.
- Travel may be needed to instruct clients on the accessibility of public transportation and other public areas.
- In addition to leading recreational activities, recreational therapists often lift and carry heavy equipment.

### Employment

- Recreational therapists held 23,800 jobs in 2004 in the United States and approximately 1,820 jobs in Pennsylvania.
- Most were employed by nursing homes, personal care facilities, and hospitals.
- The following table includes the industries that employed the most recreational therapists in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Nursing Care Facilities	600	33.0%
General Medical & Surgical Hospitals	250	13.6%
Psychiatric & Substance Abuse Hospitals	220	11.9%
Community Care Facility for the Elderly	190	10.2%
Outpatient Care Centers	180	10.1%

### Job Outlook

- Employment of recreational therapists in Pennsylvania is expected to grow from approximately 1,820 in 2004 to approximately 2,020 in 2014. Recreational therapists can expect about 20 openings due to growth and about 43 replacement openings for approximately 63 total annual openings.
- Expansion in long-term care as well as physical and psychiatric rehabilitation will stimulate employment growth. However, the total number of openings will be relatively low because the occupation is small.
- Opportunities should be best for those with a bachelor's degree in therapeutic recreation or recreation, with an option in therapeutic recreation.
- The rapidly growing elderly population is expected to spur job growth in assisted living facilities, adult day care programs, and social service agencies. Continued growth is also expected in community residential facilities.

### Earnings

Average annual earnings of recreational therapists in Pennsylvania were \$34,450 in 2005. The entry-level wage for a recreational therapist in 2005 was \$22,330 while an experienced recreational therapist made \$40,510.

### **Training, Other Qualifications and Advancement**

A bachelor's degree in therapeutic recreation or recreation is the usual requirement for entry-level positions. However, those with an associate's degree in a related health care field may qualify for paraprofessional positions. In fact, an associate's degree combined with previous training in art, drama, or music therapy may be sufficient for some activity director positions.

Most employers prefer to hire candidates who are certified therapeutic recreation specialists (CTRS). To become certified, applicants must have a bachelor's degree, pass the written certification examination, and complete a supervised internship. This internship must last at least 480 hours, although some colleges may require 600 hours.

Aspiring recreational therapists should be comfortable working with people who have disabilities or illnesses. Patience, tact, and persuasiveness are required when working with people who have a variety of special needs. Ingenuity and imagination allow recreational therapists to individualize activities depending on the client's needs. Physical coordination is necessary to demonstrate or participate in recreational activities.

Recreational therapists may advance to supervisory or administrative positions. Some go into teaching or research positions. Others go into business for themselves and perform consulting work.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of recreational therapists include recreation and fitness workers, occupational therapists, physical therapists, and rehabilitation counselors.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Therapeutic Recreation Association, 1414 Prince St., Suite 204, Alexandria, VA 22314.  
Internet: <http://www.atra-tr.org>
- National Council for Therapeutic Recreation Certification, 7 Elmwood Dr., New City, NY 10956.  
Internet: <http://www.nctrc.org>
- National Therapeutic Recreation Society, 22377 Belmont Ridge Rd., Ashburn, VA 20148.  
Internet: <http://www.nrpa.org/content/default.aspx?documentId=530>

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## Registered Nurses

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SOC CODE: 29-1111

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### Significant Points

- All registered nurses in Pennsylvania must be licensed.
- Opportunities will be best for those with advanced education and training.
- More than half were employed by hospitals.

### Nature of the Work

- Registered nurses observe patients, record information, assist physicians, administer medications, and help patients with rehabilitation efforts.
- While state laws govern which tasks nurses can perform, it is usually the work setting that determines day-to-day job duties.

**Hospital nurses** provide bedside care and carry out medical regimens. They may also supervise licensed practical nurses and nursing aides.

**Office nurses** care for outpatients in physicians' offices, clinics, and emergency medical centers.

**Nursing home nurses** develop treatment plans, supervise licensed practical nurses and nursing aides, complete paperwork, and perform certain procedures for the residents.

**Home health nurses** provide periodic services, prescribed by a physician, to patients at home.

**Public health nurses** work with individuals, groups, and families to improve the overall health of communities. They may work with community leaders, teachers, parents, and physicians.

**Occupational health or industrial nurses** provide nursing care at worksites for employees, customers, and others with minor injuries and illnesses.

**Head nurses or nurse supervisors** direct all nursing activities.

### Working Conditions

- Because 24-hour care is required, hospital and nursing home nurses often work evenings, weekends, and holidays. Some are on-call and must be able to work on short notice. Others may work regular business hours.
- Most registered nurses work in well-lit, comfortable facilities. They may spend considerable time walking and standing. Some nurses may have to travel to patient homes, schools, and community centers.
- Rigid guidelines must be observed when dealing with infectious diseases, radiation, sterilization chemicals, and anesthetics. In addition, registered nurses are vulnerable to back injury, electrical shock, and hazards posed by compressed gases.

### Employment

- Registered nurses held about 2.4 million jobs in 2004 in the United States and approximately 122,640 jobs in Pennsylvania.
- Over 55 percent were employed in hospitals. Others worked in physician offices and nursing homes.
- The following table includes the industries that employed the most registered nurses in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
General Medical & Surgical Hospitals	67,810	55.3%
Offices of Physicians	10,300	8.4%
Nursing Care Facilities	7,520	6.1%
Home Health Care Services	6,570	5.4%
Outpatient Care Centers	4,160	3.4%

### Job Outlook

- Employment of registered nurses in Pennsylvania is expected to grow from approximately 122,640 in 2004 to approximately 128,120 in 2014. Registered nurses can expect about 548 openings due to growth and about 2,566 replacement openings for approximately 3,114 total annual openings.

- A growing elderly population, technological advances, and consumer preference for care in the home will create employment growth for nursing home and home health care nurses.
- Although the intensity of nursing care is likely to increase, hospital nurses will see slower employment growth as patients are released earlier and procedures are done on an outpatient basis. Most employment growth for hospital nurses is expected to occur in outpatient facilities.
- Registered nurses must be flexible and willing to rotate among employment settings. Opportunities will be best for those with advanced education and training.

### **Earnings**

- Average annual earnings of registered nurses in Pennsylvania were \$54,040 in 2005. The entry-level wage for a registered nurse in 2005 was \$39,710 while an experienced registered nurse made \$61,200.
- Many employers offer flexible work schedules, childcare, educational benefits, and bonuses.

### **Training, Other Qualifications and Advancement**

All registered nurses in Pennsylvania must be licensed. Nursing school graduates must pass a national licensing examination to obtain a nursing license. Continuing education may be required for license renewal.

There are three major educational paths that provide nurses with classroom instruction and supervised clinical experience: Associate degree in nursing (A.D.N.), Bachelor of Science degree in nursing (B.S.N.), and diploma. Colleges and universities usually offer four or five-year bachelor degree programs. Diploma programs, offered by hospitals, usually last two to three years. Regardless of their educational program, licensed graduates generally qualify for entry-level positions as staff nurses.

Aspiring nurses should be caring and sympathetic yet emotionally stable. They must be able to accept responsibility, direct others, follow orders precisely, and determine when consultation is required. Leadership, negotiation skills, and good judgment are important qualities for registered nurses.

Experience and good performance can lead to promotion. However, many career paths are only open to those with a bachelor's or advanced degree. With appropriate education, registered nurses can advance into management positions. Others become clinical nurse specialists, nurse practitioners, certified registered nurse anesthetists, or a certified nurse-midwife. Some move into the business side of health care, while others go into teaching or research.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of registered nurses include occupational therapists, emergency medical technicians and paramedics, physical therapists, physician assistants, and respiratory therapists.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- National League for Nursing, 61 Broadway, New York, NY 10006. Internet: <http://www.nln.org>
- American Association of Colleges of Nursing, 1 Dupont Cir. NW, Suite 530, Washington, DC 20036. Internet: <http://www.aacn.nche.edu>
- American Nurses Association, 600 Maryland Ave. SW, Suite 100 West, Washington, DC 20024. Internet: <http://www.nursingworld.org>

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# Respiratory Therapists

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SOC CODE: 29-1126

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## Significant Points

- Entry-level therapists must have formal training and certification.
- Opportunities will be best for those with cardiopulmonary care skills and experience working with infants.
- About 88 percent were employed by hospitals.

## Nature of the Work

- *Respiratory therapists* evaluate, treat, and care for patients with heart and lung abnormalities.
- Treatment most commonly includes oxygen or oxygen mixtures, chest physiotherapy, or aerosol medications.
- In home care, respiratory therapists teach patients and their families how to use the equipment. They make several visits a month to clean and inspect the equipment and ensure it's proper use.
- Outside of their traditional responsibilities, many respiratory therapists draw blood samples and perform cardiopulmonary procedures, such as electrocardiograms and stress testing.

## Working Conditions

- Respiratory therapists generally work between 35 and 40 hours a week. Those employed by hospitals may have to work evenings, weekends, and holidays.
- Long periods of time are spent standing and walking between patients' rooms. During an emergency, respiratory therapists may feel a great deal of stress.
- Pressurized aerosols and infectious diseases are potentially hazardous to respiratory therapists. Adherence to safety precautions and regular equipment maintenance help minimize these risks.

## Employment

- Respiratory therapists held about 93,700 jobs in 2004 in the United States and approximately 4,320 jobs in Pennsylvania.
- Nearly 88 percent were employed in hospitals. Most in the respiratory care, anesthesiology, or pulmonary medicine departments.

## Job Outlook

- Employment of respiratory therapists in Pennsylvania is expected to decrease from approximately 4,320 in 2004 to approximately 3,940 in 2014. About 142 openings will result from replacement needs. Although no net employment growth is expected statewide, growth openings may occur in some areas.
- A growing elderly population and advances in treatments for heart attack victims, accident victims, and premature infants will create a demand for respiratory therapists.
- Opportunities will be best for those with cardiopulmonary care skills and experience working with infants.
- More therapists can expect to work outside of hospitals in home health agencies, respiratory therapy clinics, or nursing homes.

## Earnings

Average annual earnings of respiratory therapists in Pennsylvania were \$45,470 in 2005. The entry-level wage for a respiratory therapist in 2005 was \$36,780 while an experienced respiratory therapist made \$49,820.

## Training, Other Qualifications and Advancement

Respiratory therapists must have formal training and certification to obtain an entry-level position. Training programs are offered by a variety of sources, including hospitals, medical schools, colleges, universities, trade schools, and the Armed Forces. The length of the training program varies with the credential or degree that is awarded. Programs that prepare graduates for jobs as registered respiratory therapists usually last two years and lead to an associate degree. However, some programs do offer a four-year bachelor's degree. Other programs last one year and prepare graduates for jobs as certified respiratory therapists.

All respiratory therapists in Pennsylvania must be certified. Two credentials are awarded: Certified Respiratory Therapist (CRT) and Registered Respiratory Therapist (RRT). Graduates of accredited programs may take the CRT examination. Certified respiratory therapists who meet the education and experience requirements can take a separate examination in order to be awarded the RRT certification. Most employers prefer to hire certified

respiratory therapists for entry-level positions. Supervisory positions and those in intensive care specialties usually require a registered respiratory therapist.

Aspiring therapists should be sensitive to the physical and psychological needs of the patient. They must pay attention to detail, follow instructions, and work as part of a team. In addition, mechanical ability and manual dexterity are required to operate complicated respiratory therapy equipment.

In clinical practices, respiratory therapists may advance from caring for general patients to caring for critical patients as they gain experience. Those with a four-year degree may advance to supervisory or managerial positions within the respiratory department.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of respiratory therapists include occupational therapists, physical therapists, radiation therapists, and registered nurses.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Association for Respiratory Care, 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063.  
Internet: <http://www.aarc.org>
- The National Board for Respiratory Care, Inc., 8310 Nieman Rd., Lenexa, KS 66214-1579.  
Internet: <http://www.nbrc.org>
- Committee on Accreditation for Respiratory Care, 1248 Harwood Rd., Bedford, TX 76021-4244.  
Internet: <http://www.coarc.com>

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## Secretaries

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SOC CODES: 43-6011, 43-6012, 43-6013 and 43-6014

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### Significant Points

- Employers prefer to hire high school graduates with computer and typing skills.
- Those with previous experience should enjoy the best job prospects.

### Nature of the Work

- Secretaries are responsible for a variety of administrative and clerical duties necessary to run an organization efficiently. Specific job duties will vary with experience and title.
  - General secretaries* schedule appointments, organize files, provide information, train staff, manage projects, and produce correspondence.
  - Executive secretaries and administrative assistants* handle more complex tasks, such as conducting research, preparing statistical reports, training employees, and supervising other clerical staff.
  - Legal secretaries* prepare legal papers, review legal journals, and assist with legal research.
  - Medical secretaries* transcribe dictation and assist physicians with reports, articles, and speeches. They must be familiar with insurance rules, billing practices, and hospital procedures.
  - Technical secretaries* maintain technical libraries and gather materials for scientific papers. They assist engineers and scientists.
- To complete their duties, secretaries must be familiar with a wide variety of office equipment, including fax machines, photocopiers, telephone systems, and personal computers.

### Working Conditions

- Most secretaries work a standard 40-hour week. However, part-time and temporary work is available. Some workers participate in job-sharing arrangements, where two people divide the responsibilities of a single job.
- Secretaries spend most of their day in an office environment, usually sitting behind a desk.
- Workers who spend a lot of time typing may encounter eyestrain, stress, and repetitive motion problems.

### Employment

- Secretaries held about 4.1 million jobs in 2004 in the United States and approximately 202,760 jobs in Pennsylvania.
- Over 63 percent of all secretaries were employed in the services sector, mainly in health care, education and professional services. Others worked for finance, insurance, construction and manufacturing companies.
- The following table includes the industry groups that employed the most secretaries in 2004 in Pennsylvania.

Industry Group	2004 Employment	Percent
Health Care	34,702	17.1%
Educational Services	33,219	16.4%
Professional Services	28,327	14.0%
Other Services	16,369	8.1%
Finance & Insurance	15,301	7.5%
Construction	10,988	5.4%

### Job Outlook

- Employment of secretaries in Pennsylvania is expected to grow from approximately 202,760 in 2004 to approximately 214,370 in 2014. Secretaries can expect about 1,161 openings due to growth and about 3,883 replacement openings for approximately 5,044 total annual openings.
- Employment growth will vary by industry, with better than average opportunities in health, legal and business services industries. Growth in many other industries is expected to remain flat.
- Increased levels of office automation and organizational restructuring will increase worker productivity but may also contribute to decline in overall employment levels. However, many secretarial duties are of a personal and



interactive nature. Because technology cannot substitute for personal skills, secretaries will continue to play a key role in most organizations.

- Job openings should be plentiful for qualified secretaries with previous experience.

### **Earnings**

- In Pennsylvania, secretaries averaged \$26,000 to \$37,000 annually in 2005. Entry-level secretaries earned between \$17,000 and \$25,000, while experienced secretaries were paid anywhere from \$29,000 to \$43,000. Legal secretaries earned the highest wages at all levels of experience.
- The following chart includes the average annual, entry level, and experienced level wages in 2005 for various secretaries in Pennsylvania.

Occupational Title	Average Annual Wage	Entry Level Wage	Experienced Level Wage
Executive Secretaries & Administrative Assistants	\$35,790	\$24,510	\$41,430
Legal Secretaries	\$36,590	\$24,640	\$42,570
Medical Secretaries	\$26,260	\$19,670	\$29,550
Secretaries	\$27,100	\$17,980	\$31,660

### **Training, Other Qualifications and Advancement**

When filling entry-level secretarial positions, employers look for high school graduates with basic computer and typing skills. To prepare written reports and letters, secretaries need a fair knowledge of spelling, punctuation, and grammar. Shorthand experience may also be required. Communication and interpersonal skills are necessary when dealing with people. Technological advances in the office environment require people who are adaptable, versatile, and willing to attend training classes. Important traits for secretaries in higher-level positions include discretion, good judgment, organizational ability, and initiative.

Formal secretarial training programs are offered in high schools, business schools, vocational-technical institutes, and community colleges. Some temporary help agencies also provide training in computer and office skills. In addition, specialized programs are available for aspiring medical and legal secretaries. However, most secretarial skills are acquired through on-the-job instruction.

Secretaries with two years of experience may apply for certification through the International Association of Administrative Professionals (IAAP). Applicants who pass the IAAP examination are awarded the Certified Professional Secretary (CPS) designation. Legal secretaries have many certification options. For those with no formal experience, an Accredited Legal Secretary (ALS) credential is available through the National Association of Legal Secretaries. This organization also administers the Professional Legal Secretary (PLS) examination for those with 3 years of experience. Legal Secretaries International confers the designation of Board Certified Civil Trial Legal Secretary to applicants with 5 years of law-related experience and a passing grade on the examination.

Advancement opportunities, usually in the form of increased responsibilities, come with experience and additional education. Experienced secretaries may be promoted to senior secretary, executive secretary, clerical supervisor, or office manager positions. Secretarial experience can also lead to jobs as instructors or sales representatives. With additional training, many legal secretaries become paralegals.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of secretaries include bookkeeping, accounting, and auditing clerks; receptionists and information clerks; court reporters; computer operators; data entry and information processing workers; paralegals and legal assistants; medical assistants; medical records and health information technicians; and human resource assistants.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- International Association of Administrative Professionals, 10502 NW Ambassador Dr., PO Box 20404, Kansas City, MO 64195-0404. Internet: <http://www.iaap-hq.org>
- National Association of Legal Secretaries, 314 E. 3rd St., Suite 210, Tulsa, OK 74120. Internet: <http://www.nals.org>

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## Social & Human Service Assistants

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SOC CODES: 21-1093

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### Significant Points

- Employers prefer to hire those with relevant work experience or education beyond high school.
- Job opportunities should be excellent, especially for those with postsecondary training, but pay is low.

### Nature of the Work

- *Social and human service workers* include such occupations as human service workers, case management aides, social work assistants, community support workers, mental health aides, community outreach workers, life skill counselors, or gerontology aides.
- Workers identify client concerns, consider solutions, and find reliable resources. They may help people solve personal problems, deal with relationships, or function to the best of their abilities in the given environment. Specific duties will vary with setting and area of specialization.
- After assessing the needs of each client, social and human service workers help locate and obtain appropriate benefits and services. Workers may follow-up by telephone or personal visit. Thorough case records are kept on each client and progress is reported to the workers supervisor.
- Work is usually performed under the direction of other health care professionals, although the amount of responsibility and supervision can vary a great deal.
- Through a variety of individual and community activities, social and human service workers provide emotional support and help clients improve themselves.

### Working Conditions

- Most social and human service workers work a standard 40-hour week. Occasional evening and weekend work may be necessary. Part-time work is common in nonprofit agencies.
- Working environments include offices, clinics, hospitals, group homes, and shelters.
- Local travel may be required to visit clients, meet with service providers or attend community meetings.
- The work, while satisfying, can be emotionally draining. Understaffing, large caseloads, and relatively low pay can add to the pressure.

### Employment

- Social and human service workers held about 351,700 jobs in 2004 in the United States and approximately 15,130 jobs in Pennsylvania.
- Almost 23 percent were employed by individual and family service agencies. Another 13 percent were employed by residential mental health facilities.
- The following table includes the industries that employed the most social and human service workers in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Individual & Family Services	3,440	22.8%
Residential Mental Health Facilities	2,010	13.3%
Accounting & Bookkeeping Services	1,800	11.9%
Local Government	950	6.3%
Outpatient Care Centers	920	6.1%
Vocational Rehabilitation Services	800	5.3%

### Job Outlook

- Employment of social and human service workers in Pennsylvania is expected to grow from approximately 15,130 in 2004 to approximately 18,840 in 2014. Social and human service workers can expect about 371 openings due to growth and about 266 replacement openings for approximately 637 total annual openings.
- Demand for social and human service workers is expected to increase, especially amongst agencies that provide job training programs and services for the elderly.

- The number of jobs for social and human service assistants in state and local government will increase, mostly in the corrections and public assistance departments.

### **Earnings**

Average annual earnings of social and human service workers in Pennsylvania were \$24,640 in 2005. The entry-level wage for a social and human service worker in 2005 was \$16,440 while an experienced social and human service worker made \$28,730.

### **Training, Other Qualifications and Advancement**

Most entry-level jobs in social and human services do not require any formal education. However, many employers prefer to hire applicants that have related work experience or those who have obtained certificates or associate's degrees in social work, human services, gerontology, or behavioral science. Formal programs have a core curriculum that trains workers in observing patients and handling problems. Many programs also require the completion of a supervised internship. The level of educational attainment often influences the kind of work and degree of responsibility that an employee is entrusted with. Those with proven leadership ability often receive greater autonomy in their work. In addition to formal education, employers often provide some in-service training, such as seminars and workshops.

Aspiring social and human service workers should be patient, understanding, and emotionally mature. Workers should also have a strong desire to help others. Employers look for people that can handle responsibility and are able to work independently. Strong communication skills are essential when dealing with clients and co-workers. Volunteer work is a good way to test one's interest in this field. In order to qualify for advanced social and human services positions, workers may need additional education and significant work experience.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of social and human service workers include social workers; clergy; counselors; childcare workers; occupational-therapist assistants and aides; physical-therapist assistants and aides; and nursing, psychiatric, and home-health aides.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- National Organization for Human Service Education, 9001 Braddock Rd., Suite 380, Springfield, VA 22151. Internet: <http://www.nohse.com>

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## Social Workers

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SOC CODES: 21-1021, 21-1022, 21-1023 and 21-1029

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### Significant Points

- Employment growth will be strongest in the private sector.
- Competition is strongest within cities, where the demand for services is often highest.
- A bachelor's degree is needed for most entry-level social worker positions.

### Nature of the Work

- Social workers help people solve personal problems, deal with relationships, and function to the best of their abilities in the given environment. They identify client concerns, consider solutions, and find reliable resources. Specific duties will vary with setting and area of specialization.

*Child and adult protective services social workers* investigate reports of abuse and neglect. They may intervene if necessary.

*Child welfare and family services social workers* counsel children who have difficulty adjusting socially and advise parents on how to care for disabled children. Some arrange adoptions and help find foster homes for neglected or abused children.

*Clinical social workers* offer counseling and a wide range of diagnostic services in public agencies, clinics, and private practices.

*Criminal justice social workers* make recommendations to courts and provide services to prison inmates and their families. Probation and parole officers provide similar services.

*Gerontology social workers* coordinate and monitor services for the elderly. They advise clients and their family members about housing, transportation, and long-term care choices.

*Healthcare social workers* help patients and their families cope with chronic, acute, or terminal illnesses and handle any problems that may hinder recovery or rehabilitation.

*Mental health social workers* provide services for people with mental or emotional problems. Services include therapy, crisis intervention, and social rehabilitation.

*Occupational social workers* help workers cope with job-related pressures or personal problems that affect the quality of their work.

*School social workers* counsel troubled children, advise teachers, and help integrate disabled students into the general school population.

*Social work administrators* perform overall management tasks in settings that offer social services.

*Social work planners and policy-makers* research and analyze policies, programs, and regulations. They identify social problems, suggest solutions, and may help raise funds or write grants.

*Substance abuse social workers* counsel drug and alcohol abusers as they recover from their addictions.

- After assessing the needs of each client, social workers help locate and obtain appropriate benefits and services. Workers may follow-up by telephone or personal visit. Thorough case records are kept on each client and progress is reported to the workers supervisor.
- Through a variety of individual and community activities, social workers provide emotional support and help clients improve themselves.

### Working Conditions

- Most social workers usually work a standard 40-hour week. Occasional evening and weekend work may be necessary. Part-time work is common in nonprofit agencies.
- Working environments include offices, clinics, hospitals, group homes, and shelters.
- Local travel may be required to visit clients, meet with service providers, or attend community meetings.
- The work, while satisfying, can be emotionally draining. Understaffing, large caseloads, and relatively low pay can add to the pressure.

### Employment

- Social workers held about 562,400 jobs in 2004 in the United States and approximately 28,250 jobs in Pennsylvania.
- Almost 30 percent were employed by state or local government agencies. In the private sector, most worked for social service agencies, residential care facilities, and hospitals.
- The following table includes the industries that employed the most social workers in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Individual & Family Services	6,400	22.7%
Local Government	5,150	18.2%
State Government	2,760	9.8%
Outpatient Care Centers	2,370	8.4%
General Medical & Surgical Hospitals	2,230	7.9%

### Job Outlook

- Employment of social workers in Pennsylvania is expected to grow from approximately 28,250 in 2004 to approximately 32,900 in 2014. Social workers can expect about 465 openings due to growth and about 484 replacement openings for approximately 949 total annual openings.
- Demand for social services is expected to increase, especially amongst agencies that provide job training programs and services for the elderly.
- Social workers employed in the private sector will experience the greatest employment growth. However, limited opportunities will exist for social workers within private social service and government agencies, which are restructuring their services and hiring lower-paid human services workers.
- Competition for jobs is strongest within cities, where the demand for services is often highest. Social workers should find many opportunities in rural areas. Regardless of the area, qualified applicants should have little difficulty finding employment.

### Earnings

- In Pennsylvania, social workers averaged between \$31,000 and \$41,000 annually in 2005. Entry-level social workers earned between \$21,000 and \$26,000, while experienced social workers were paid anywhere from \$35,000 to \$48,000.
- The following chart includes the average annual, entry level, and experienced level wages in 2005 for social workers in Pennsylvania.

Occupational Title	Average Annual Wage	Entry Level Wage	Experienced Level Wage
Child, Family & School Social Workers	\$31,050	\$21,210	\$35,970
Medical & Public Health Social Workers	\$40,060	\$25,110	\$47,540
Mental Health & Substance Abuse Social Workers	\$32,270	\$22,290	\$37,270
Social Workers, Other	\$38,540	\$25,900	\$44,860

### Training, Other Qualifications and Advancement

Entry-level requirements vary amongst social services occupations. Most social workers obtain a bachelor's degree in social work (BSW), although degrees in psychology or sociology may be sufficient. In some cases, an advanced degree may be required. For example, a master's degree in social work (MSW) is required for positions in mental health settings while a doctorate in social work (DSW) is necessary for most teaching and research positions.

Accredited BSW programs combine classroom instruction with at least 400 hours of supervised field experience. Master's degree programs allow graduates to further develop their skills in a chosen field of concentration. Full-time programs usually last two years and include 900 hours of supervised instruction. Although a BSW is not required to enter a master's degree program, it is recommended. Knowledge of a second language may also prove advantageous.

Social workers in Pennsylvania must adhere to licensing and registration requirements. Although licensing standards may vary, a minimum amount of education and practical work experience is required. In addition, completion of a supervised internship may be necessary. An increasing emphasis is placed on communication skills, professional ethics, and sensitivity to cultural diversities. Those who meet the minimum qualifications and pass the

written examination are awarded a social worker license. The National Association of Social Workers (NASW) offers voluntary credentials, which are particularly important for those in private practice.

Aspiring social workers should be patient, understanding, and emotionally mature. Workers should also have a strong desire to help others. Employers look for people that can handle responsibility and are able to work independently. Strong communication skills are essential when dealing with clients and co-workers. Volunteer work is a good way to test one's interest in this field.

In order to qualify for advanced social services positions, workers may need additional education and significant work experience. Some social workers change career paths and become teachers, researchers, or consultants. A few help formulate government policies by analyzing and advocating policy positions in government agencies and research institutions. Those with a master's degree may go into private practice.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of social workers include clergy, counselors, psychologists, and social and human service assistants.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- National Association of Social Workers, 750 First St. NE, Suite 700, Washington, DC 20002-4241.  
Internet: <http://www.naswdc.org>
- Council on Social Work Education, 1725 Duke St., Suite 500, Alexandria, VA 22314-3457.  
Internet: <http://www.cswe.org>
- Association of Social Works Boards, 400 S. Ridge Pkwy, Suite B, Culpeper, VA 22701.  
Internet: <http://www.aswb.org>

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## Speech-Language Pathologists and Audiologists

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SOC CODE: 29-1121 and 29-1127

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### Significant Points

- A master's degree is the standard educational credential.
- Licensing is required to practice in Pennsylvania.
- Roughly 38 percent worked for educational institutions.

### Nature of the Work

- *Speech-language pathologists* assess and treat people who have speech, language, voice, and other communication disorders. Some work with patients that have oral motor problems, which cause eating and swallowing difficulties. Written tests, oral examinations, and special instruments are used to diagnose the nature and extent of impairment.
- Individualized care plans are developed and tailored to the customer's needs. Patients may be taught how to use alternative communication methods, such as automated devices and sign language.
- *Audiologists* work with people who have hearing or balance disorders. They may use audiometers, computers, and other testing devices. Some recommend, fit, and dispense amplification systems, such as hearing aids and alerting devices.
- Most speech-language pathologists and audiologists provide direct clinical services to individuals. Others conduct research. Some design equipment and develop techniques for diagnosing and treating disorders.

### Working Conditions

- Speech-language pathologists and audiologists usually work a 40-hour week. Part-time work is also available. Contracted workers may spend a substantial amount of time traveling between facilities.
- Work is usually completed at a desk or table that is located in clean, comfortable surroundings.
- Although the job is not physically demanding, it does require constant attention and intense concentration.

### Employment

- Speech-language pathologists and audiologists held about 105,800 jobs in 2004 in the United States and approximately 4,490 jobs in Pennsylvania.
- About 38 percent were employed in elementary and secondary schools. Others worked in hospitals and clinical offices.
- The following table includes the industries that employed the most speech-language pathologists and audiologists in 2004 in Pennsylvania.

Industry	2004 Employment	Percent
Elementary & Secondary Schools	1,690	37.7%
General Medical & Surgical Hospitals	570	12.8%
Offices of Other Health Practitioners	320	7.2%
Nursing Care Facilities	270	6.0%
Other Hospitals	190	4.1%

### Job Outlook

- Employment of speech-language pathologists and audiologists in Pennsylvania is expected to grow from approximately 4,490 in 2004 to approximately 5,010 in 2014. These workers can expect about 54 openings due to growth and about 111 replacement openings for approximately 165 total annual openings.
- Demand for speech-language pathologists and audiologists will increase as the population continues to grow and age. In addition, medical advances are improving the survival rate of premature infants and trauma victims, who then need assessment and possible treatment.
- Federal legislation imposes reimbursement limits on therapy services. This will continue to adversely affect the job market in the future.

- The number of self-employed workers will increase as more hospitals, schools, and nursing homes contract these services from an outside source.

### **Earnings**

- Average annual earnings of speech-language pathologists in Pennsylvania were \$46,890 in 2005. The entry-level rate for a speech-language pathologist in 2005 was \$30,490 while an experienced speech-language pathologist made \$55,080.
- Average annual earnings of audiologists in Pennsylvania were \$60,660 in 2005. The entry-level rate for an audiologist in 2005 was \$40,850 while an experienced audiologist made \$70,560.

### **Training, Other Qualifications and Advancement**

Speech-language pathologists and audiologists must be licensed to practice in Pennsylvania. Licensing requirements include a master's degree, at least 300 hours of supervised clinical experience, nine months of postgraduate clinical fellowship, and a passing score on the national examination. Proof of continued education may be required for licensure renewal.

In addition, the American Speech-Language-Hearing Association awards Certificates of Clinical Competence in Speech-Language Pathology (CCC-SLP) or Audiology (CCC-A) to those who pass the written examination. However, the educational requirements for audiologists are expected to increase. By 2012, a doctoral degree will be needed before applying for certification.

Strong communication skills are very important for speech-language pathologists and audiologists. These workers should also be able to approach problems objectively. Patience, compassion, and good listening skills are essential traits when dealing with clients and their families.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of speech-language pathologists and audiologists include occupational therapists, optometrists, physical therapists, psychologists, recreational therapists, and rehabilitation counselors.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852. Internet: <http://www.asha.org>
- American Academy of Audiology, 11730 Plaza America Drive, Suite 300, Reston, VA 20190. Internet: <http://www.audiology.org>



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## Surgical Technologists

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SOC CODE: 29-2055

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### Significant Points

- An aging population will create many employment opportunities.
- Most employers prefer to hire certified surgical technologists.

### Nature of the Work

- *Surgical technologists* assist surgical personnel before, during, and after surgery.
- Before an operation, surgical technologists prepare patients, surgical team members, and the operating room for surgery. They may observe patients' vital signs and check charts.
- During surgery, they pass instruments and other sterile supplies to surgeons and other surgical personnel. They also maintain supplies of fluids, such as plasma and blood. Some operate diagnostic equipment.
- Surgical technologists help transfer patients to recovery rooms. They also clean and restock the operating room.

### Working Conditions

- Most surgical technologists work a 40-hour week. Evening, weekend, and holiday may be required on a rotating basis. Some are on-call in case of emergencies.
- Surgical technologists spend a great deal of time on their feet, working in clean, well-lit environments.
- At times, surgical technologists may be exposed to unpleasant sights, odors, and materials. They also risk exposure to communicable diseases.

### Employment

- Surgical technologists held about 84,100 jobs in 2004 in the United States and approximately 3,510 jobs in Pennsylvania.
- Over 70 percent were employed by hospitals. Another 15 percent worked in dentist offices. Others worked in physician offices and outpatient care facilities.

### Job Outlook

- Employment of surgical technologists in Pennsylvania is expected to decrease from approximately 3,510 in 2004 to approximately 3,480 in 2014. About 46 annual openings will result from replacement needs. Although no net employment growth is expected statewide, growth openings may occur in some areas.
- An aging population will require more surgical procedures, which could create employment growth for surgical technologists. Technological advances will also permit new surgical procedures to be performed.
- Although hospitals will continue to employ the most surgical technologists, employment could grow in physician offices and clinics.

### Earnings

Average annual earnings of surgical technologists in Pennsylvania were \$33,100 in 2005. The entry-level wage for a surgical technologist in 2005 was \$25,450 while an experienced surgical technologist made \$36,920.

### Training, Other Qualifications and Advancement

Surgical technologists receive their training through formal programs offered by community colleges, junior colleges, vocational schools, universities, hospitals, and the Armed Forces. Training programs last nine to 24 months and combine classroom study with supervised clinical practice. Shorter programs are designed for students who are already health professionals, such as licensed practical nurses.

Most employers prefer to hire certified surgical technologists. Voluntary certification is available through the Liaison Council on Certification for Surgical Technologists. Graduates of an accredited training program must pass the national certification examination before they are awarded the designation, Certified Surgical Technologist. Continuing education or re-examination is required for certification renewal, which must be done every six years.

Manual dexterity is needed to handle instruments. In order to deal with the pressures of the operating room, technologists must be conscientious and emotionally stable. Surgeons expect technologists to know which instruments will be needed and to respond quickly during a surgical procedure.

Experienced surgical technologists advance by specializing in a particular area of surgery. With additional training, some advance to surgical assistant positions.

### **Related Occupations**

Workers in other occupations with responsibilities and duties related to those of surgical technologists include dental assistants, licensed practical nurses, medical and clinical laboratory technicians, medical assistants, and respiratory therapy technicians.

### **Sources of Additional Information**

- Pennsylvania CareerLink. Internet: <http://www.pacareerlink.state.pa.us>
- Association of Surgical Technologists, 7108-C S. Alton Way, Centennial, CO 80112.  
Internet: <http://www.ast.org>
- Liaison Council on Certification for the Surgical Technologist, 128 S. Tejon St., Suite 301, Colorado Springs, CO 80903. Internet: <http://www.lcc-st.org>
- National Center for Competency Testing, 7007 College Blvd., Suite 250, Overland Park, KS 66211.  
Internet: <http://www.ncctinc.com>